Now perform the following operations in sequence and draw a figure depicting the new structure after each operation. When you are presented with a dialog, try to understand the dialog and the implications of the various choices provided :

(a) Copy the file f2 into the directory tmp→d2.

(b) Open the file f2 in gedit and type some more content.

(c) Move the directory d3 to the directory d2 in d1.

(d) Copy the file f1 in tmp→d1→d2 to the same directory.

(e) Copy the file f1 in tmp→d1→d2 to tmp→d1.

(f) Copy the file f1 in tmp→d1→d2 to tmp→d2.

(g) Copy the directory d4 to d3.

(h) Copy the directory tmp→d1→d2 to tmp.

(i) Move the directory tmp→d1→d2 to tmp.

4. Practise renaming and deleting files.

5. Open two different directories in two Nautilus windows, place them side-by-side and use drag-and-drop to move and copy some files from one directory to another.

6. Open gedit. Change the looks using the Preferences menu.

7. Type a note on gedit in gedit itself. Be sure to use the facilities described in the chapter to familiarize yourself with them.

8. Create a short summary of your gedit note in another file using copy-paste from the original note.

9. View some images from the directories mentioned in the text using Eye of GNOME. Apply the operations mentioned and observe their effect.

10. Perform the operations in Figure 8.28 yourself.

11. For each tool of GIMP discussed in the text, show its effect by applying it to an image and drawing the "before" and "after" images. Also write down the steps of the operation alongside.

12. Create simple drawings of the following types :

(a) Landscape (b) Object Drawing

(c) Cartoon (d) Free Hand Drawing

13. Try to apply some effects to existing images.

NOTES TO TEACHERS

- Assignments for all tools may focus on "How to…." activities. The activities may be reverse engineered from the features discussed in the text or you may use your own creativity.
- Assignments for GNOME Terminal, Eye of GNOME, Rhythmbox music player and Totem Movie Player will have to be based on preferences and options.
- Assignment on calculator may ask students to perform some calculation that they have already learned in mathematics but is too cumbersome or time-consuming to perform by hand. Questions should not be asked on what they have not learnt.
- Assignment on gedit may concentrate on the windows, tabs, cut-copy-paste operations, etc.
- Assignment on GIMP may be graded
  - Simple assignment requiring the knowledge of only one procedure from the text
  - Operations that require the use of more than one tool
  - Complete tiny projects in image creation and manipulation
  - Assignments that require creativity on the student's part (should not be overemphasized)
- Assignments on GIMP need not have iron-cast requirements, this will permit students to use their creativity
- Provide some readymade images to be processed to the students.
- Be sure to perform the assignment yourself to ensure they do not use anything not covered in the text and are within the ability of students in the given timeframe before giving them to the students.

Introduction to Word Processing

Introduction

Friends, you learnt earlier that computers have been used to handle a variety of activities in diverse fields for the last two decades. One of the most common uses of computer is in handling office activities. It is observed that word processing, data processing, communication and presentation are the most common activities happening in the offices. Computers are used to handle these activities effectively. We know that different software is available in the market to perform such activities using computers. Since the start of computer usage, proprietary software is used, but in last few years, use of open source software has substantially increased due to obvious advantages. In previous chapters you have studied about proprietary and open source software. Since long back, software called Microsoft Office (MS-Office) is used to handle the office activities like word processing, presentation, spreadsheet and others. Similar software is available from open source community; some of these are Star Office, Libre Office and Open Office. In this chapter we shall learn about how word processing is done using software called 'Writer' which is a component of open office.

Word Processing and Word Processor

We are familiar with the word 'Document'. A document identifies contents written on a paper. In our day-to-day life we use documents for several purposes. The purpose of writing on papers may be to convey your thought to others, to preserve the content for longer period or it may be used as evidence. These documents can be letters, reports, thesis, manuscripts, legal documents, books etc. Suppose, you want to prepare a document but your handwriting is so bad that even a pharmacist couldn't read it or you are the kind of person who has to write, rewrite, and write again. Then what you need is word processing software.

The activity of word processing is the creation of documents using software (Collection of Programs) called word processor. The creation of documents means not only typing but also refers to composition, editing, viewing, formatting, storing, retrieving and printing. Thus a **word processor** is a computer application used for the production of any sort of printable material. In late 1960's the term *word processing* was invented by IBM. In the late 1970's Microsoft WordStar was the most widely used word processing software. Many other word processing applications also exist, including WordPerfect and open source applications OpenOffice.org Writer, LibreOffice Writer, AbiWord, KWord, etc. Web-based word processors, such as Office Web Apps or Google Docs, are relatively new software facilities.

Figure 9.1 : A Typical Type Writer

Need of Word Processing

In 18th century a type writer as shown in figure 9.1 was invented to impress characters on paper. It is a mechanical or electromechanical device with keys that, when pressed, cause characters to be printed on a medium, usually paper. As days passed several limitations were noticed in using type writer :

(1) When any typing error was noticed then to correct them the whole sheet was required to be typed again.

(2) When we needed more copies, every time the same content needs to be typed again and again.

(3) If one wants to reproduce the same document again with minor changes, the whole document was required to be typed again. For example, if we want to send same letter to two or more persons with different addresses, we had to type the letter multipletimes.

(4) Sometimes it may not be possible to have all the required characters or symbols on the type writer we are using, and as a result we have to either type a similar character or symbol or sometimes we have to leave that space and have to write manually.

(5) In case, if a document is to be produced in a particular format, either it may consume lots of time or it may not be possible to type the document in desired format using a type writer.

To solve the above mentioned problems with a type writer, in the year 1974 'Xerox' company introduced a new product called "electronic type writer". Changes in the content, once typed, are possible with this kind of type writer. Multiple copies can also be taken out even with minor changes. But the only problem with electronic type writer is that it has a very small sized screen and therefore it was possible to view only one or two or very few lines.

In late 1970s the limitations of electronic type writer were replaced by computers. Since then software are used for word processing. When we use word processor to create a document, the

contents of the document is displayed on the computer screen. On the screen we can navigate from one place to another and can make changes if required. After confirming that the content is error free, we can print it.

Early word processors used tag-based markup for document formatting. When a specific portion of the content needs some special effect, a particular tag is put on both the sides of the text. For example, if some portion of the content is required to be bold, a <bold> tag is put on both the sides of the portion that we want to have bold effects. From last two decades most modern word processors take advantage of a graphical user interface providing some form of what-you-see-is-what-you-get (WYSIWYG) editing. This means, the special effects on text are also visible on the screen.

Features of Word Processor

Word processing does not only provide basic ability to enter and modify the text but also provides efficient text manipulation functions that can be used for documentation. Modern word processors provide abundant attractive features. Some of the features provided by popular word processors are as listed :

- Move a selected text from one place to another place within the document.
- Copy a selected text for any number of times at any other places within the document.
- Open more than one document at a time and move or copy a selected text from one document to any other document.
- Change the font, font size and even font style of the selected portion of the document.
- Format paragraphs with word wrap, align the paragraph as left aligned, center aligned, right aligned or justified.
- Find a particular word within the document and replace the found word by other word.
- Check spelling and grammar.
- Create table, modify the size of the selected rows, columns or cells.
- Split a single cell into more than one or merge more than one selected cells into one.
- Combine one or more documents.
- Insert pictures or graphs within the document.
- Print the selected text or selected pages of the document.

Over and above the features listed, word processors also provide several advanced features like :

- Batch mailings, using a letter template and an address database (also called mail merging)
- Line and page numbering.
- Footnote numbering.
- Character count, word count, sentence count, line count, paragraph count, page count.
- Word, sentence and paragraph length.
- Editing time.

In short a word processor is powerful software that consists of one or more programs that can produce any arbitrary combination of images, graphics and text.

General Applications of a Word Processor

Word processors have a variety of uses and applications within the business world, home, and education i.e in schools and colleges. Word processors are widely used in most of the offices for preparing letters, letterheads, reports, memorandums, balance sheet report and many other different types of documents like legal copies and reference documents. Businesses tend to have their own format and style for these documents. Apart from business, word processors are useful at home. Many homes have word processors on their computers; students use it for preparing project reports and assignments. It is also used for letter writing, resume creation and card creation. Authors use word processing software for preparing articles and manuscripts of books. Researchers use word processors for preparing thesis and teachers use it for preparing question papers or study materials and notes. In short word processing is observed to be the most popular application of a computer, since preparation of varieties of documents is a common need for many people.

Office Suite

Friends, before we start the word processor – Writer, let us have a look at the Open Office suite.

Office suite is a collection of programs, which are useful for word processing, database management, presentation, spreadsheet preparation and many more such applications. There are several open source office suites like GNOME Office, NeoOffice, SoftMaker Office, Star office etc. In this book we shall learn about the components of Open Office 3.2. This suite is available in many languages and runs on many platforms. The application components of OpenOffice are Writer for word processing, Calc for spreadsheet preparation, Impress for presentation, Base for database management, Draw for drawing and others. OpenOffice.Org. is widely used Office suite. Files created in the components of this Office suite, can be read and edited in other office suites like MS-Office and vice versa. Hence we can easily share our documents with our friends who may use different office suites.

Writer - The Word Processor

As mentioned earlier Writer is part of the OpenOffice.org(OOo) – Open Office suite. It is a kind of word processor which provides almost all the features of word processing. In the previous chapter, you have learnt about an operating system. We assume that you already have Ubuntu 10.04 LTS operating system installed on your computers. You can open Writer in different ways. One of the most common ways to start Writer

Figure 9.2 : Writer Icon

is to double click on Openoffice.org Word Processor Icon, if it is exist on the desktop (See figure 9.2). This action will open a window as shown in figure 9.3.

Alternatively you can choose Applications → Office → OpenOffice.org Word Processor (See figure 9.4).

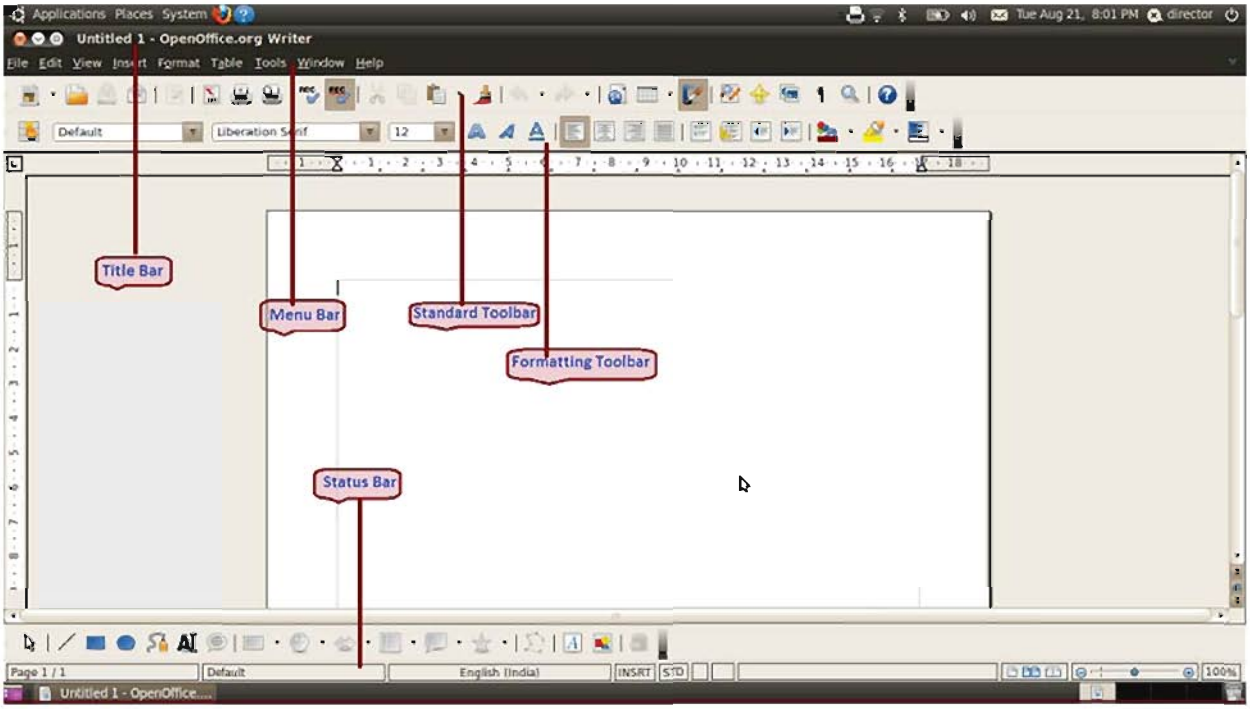

Figure 9.3 : Writer Window

As shown in the figure 9.3, the top most line in the main window is Title Bar, where the current file name is displayed and when the file is newly created, Untitled 1, will appear as file name. Second line that is just below the Title Bar is the Menu Bar, from where we can access different menus like File, Edit, View, Insert, Format, Table, Tools, Windows and Help. If you have worked in MS-Word, you can notice that the menu bar contains almost similar options. If any of the menu items is selected, a submenu drop down becomes visible, below the selected item; it allows us to select different commands.

Figure 9.4 : Alternate Method to Open Writer

File menu contains the options that apply to the entire document such as Open, Save as, Print and many more. Edit menu includes the commands for editing the document such as cut, copy, paste, undo, redo, find and replace. Commands that permit to manage the display of the document such as print layout, web layout, full screen, ruler are included in View menu. Commands for inserting any objects in the document like pictures, sounds, graphs, headers, footers are the part of Insert menu. Options required for formatting the layout of the current document are available in Format menu. Bullets and numbering, styles and formatting, change case are some of the options available in Format menu. Table creation, modification in it, adjustment of rows and columns, everything related to table is done through Table menu. Options like Checking of spelling and grammar, change of language, line numbering, and word count are available in Tools menu. Window menu is normally used when more than one document is opened. Switching from one document to other and to view all the documents on screen at the same time is possible through this menu. When you want any help regarding Writer such as to know about any option of the menu you may select the last menu option Help.

Figure 9.5 shows the options available under the Tools menu. The toolbar, just under the Menu bar is known as Standard toolbar. This toolbar contains short-cuts in the form of symbols called icons, to create a file, open existing file, save file, print file and allows us to perform various other operations on a document. This toolbar is same across all the applications (Writer, Calc, Draw, and Impress) of the OpenOffice.org. For example when you click on File menu, a drop down list will appear for various options. If you select New option then a sub menu will appear to its right as shown in figure 9.6.

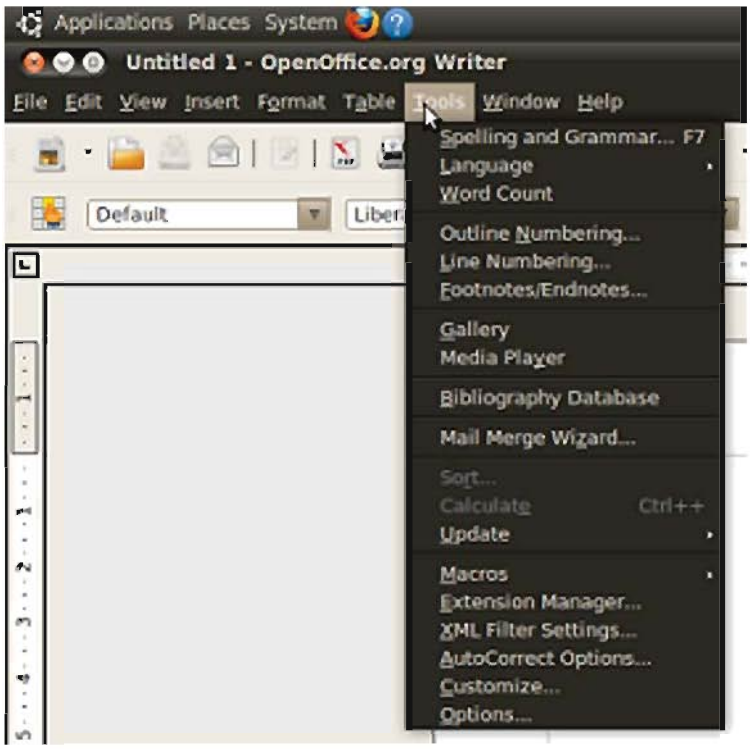

Figure 9.5 : Tools Menu

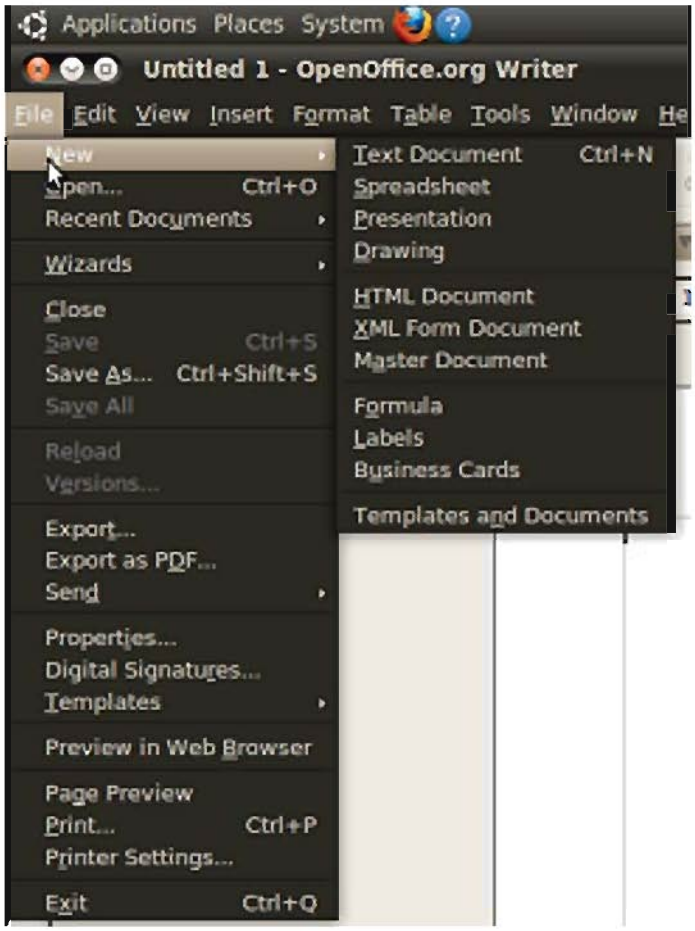

Figure 9.6 : Sub Options of New

The sub menu shown in figure 9.6 contains options for opening the file in other components of the open office. Here if you select text document then the window for creating a writer document will open and if you select spreadsheet then the window of Calc Component will be loaded and displayed on the screen.

The other toolbar is the Formatting toolbar. It shows the short cuts to various options for formatting the selected portion of the document. This is context-sensitive that is the tools are relevant to cursor position or selection. When the cursor is on picture, the Formatting bar gives tools for formatting picture, if cursor is in a table, tools for formatting table is provided and when the cursor is in text, the tools are for formatting text.

There are other toolbars, which will be discussed as and when the relevant topic will be discussed. The other toolbars can be displayed and hide as and when we wish. Select View Menu and then Toolbar option as shown in figure 9.7, you can see different toolbars. From the list, click on the name of a toolbar, you want to display. An active toolbar shows a check mark ✓ beside its name. To hide any of the active toolbar, click on the name of the toolbar you want to hide.

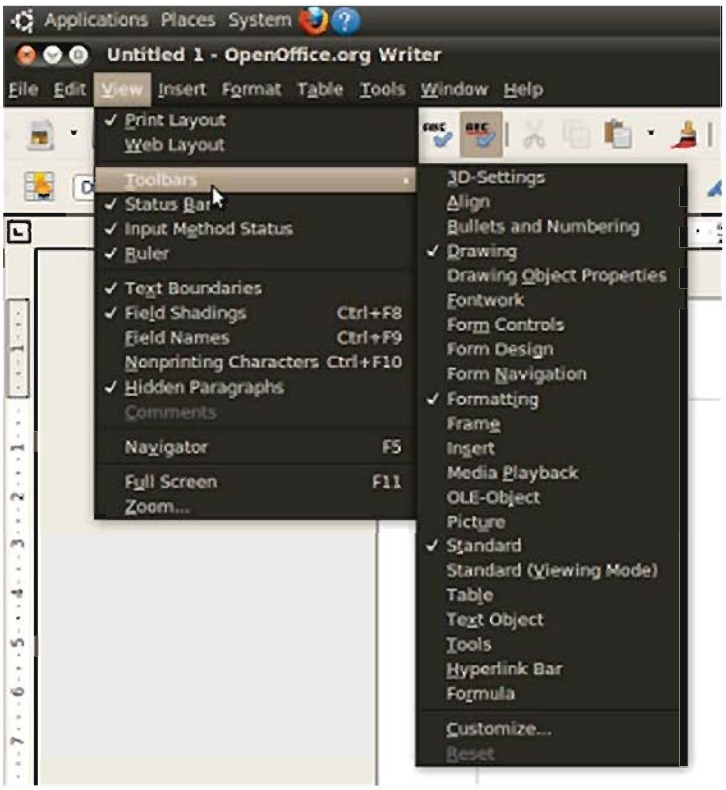

Figure 9.7 : Choosing Toolbar from View Menu

Moving Toolbars

To move a toolbar, place the mouse pointer over the toolbar handle as seen in figure 9.8, hold down the left mouse button, drag the toolbar to the new location, and then release the mouse button.

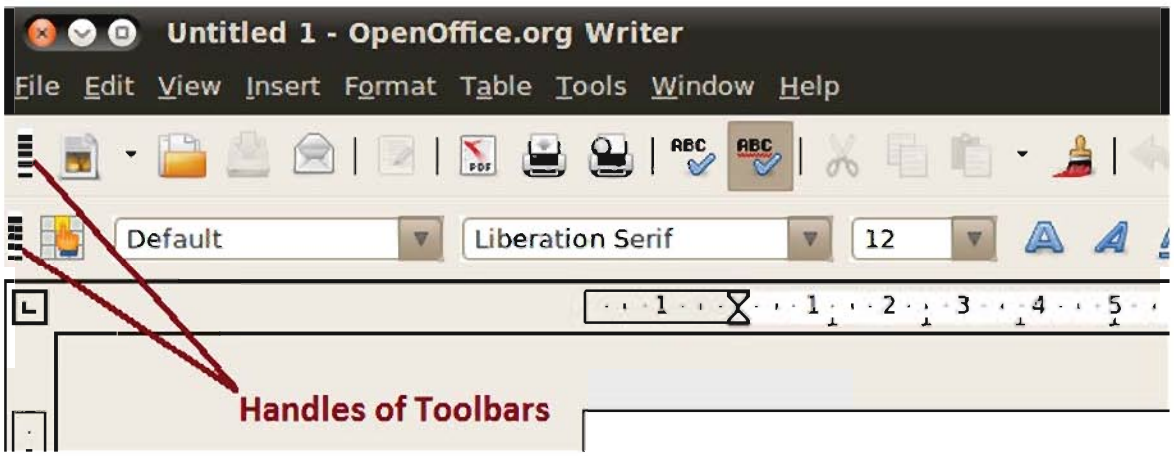

Figure 9.8 : Moving Toolbar

Creating a New Text Document

You can create a new document in many different ways in OpenOffice. One way to create a new document is to choose File → New → Text Document (see figure 9.6). Alternatively

we can press CTRL + N on the key board or clicking on New  icon on the standard toolbar.

Creating a New Text Document From Template

You can use templates to create new documents in Writer. A template is a set of predefined styles and formatting. Templates can work as the basic unit of a set of documents. You can create new documents based on them by using File → New → Templates and Documents. This opens a dialog box as shown in figure 9.9, where you can choose the template you want to use for your document. Select the desired name and click on Open.

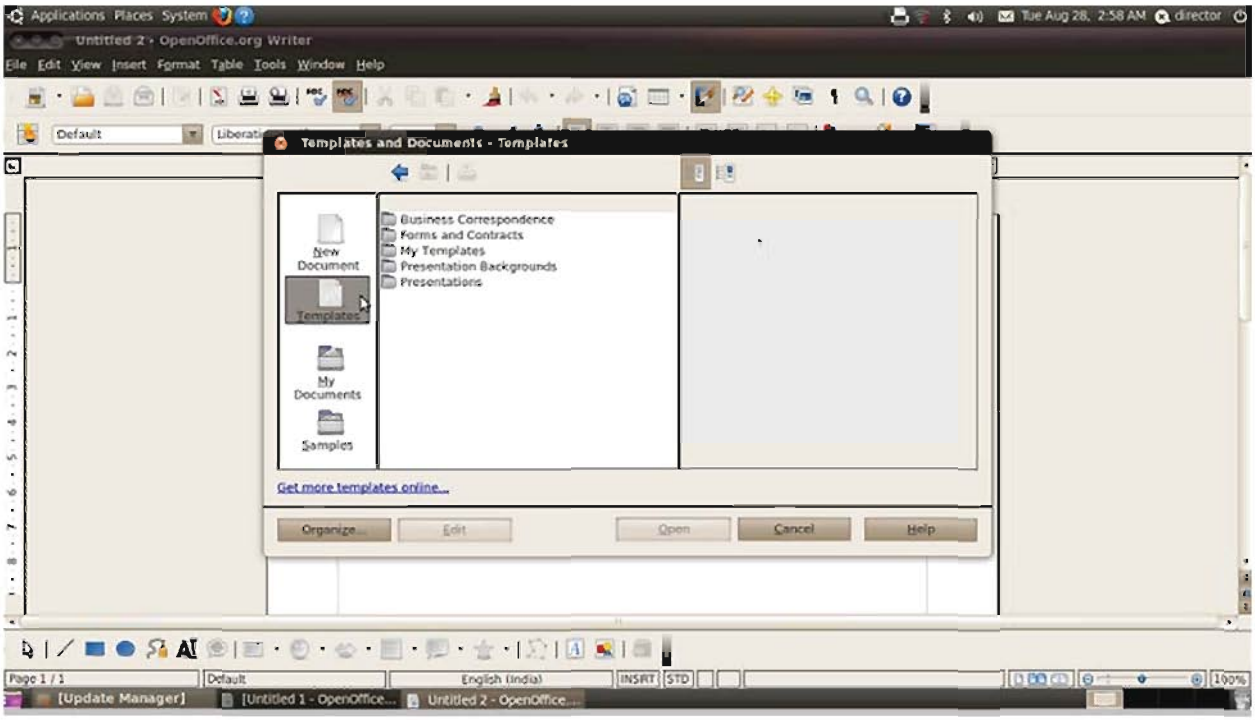

Figure 9.9 : Creating a New Text Document from Template

Opening an Existing Document

A document can be opened from any component of the OpenOffice. Simply select File → Open or Double click on Open  icon shown in figure 9.10 on Standard Toolbar or press CTRL + O on the key board. This will take you to the open dialog box. Select the file you want and then click on open button. If you want to reduce the list of files on the screen, you can select the file type in the open dialog box. Writer will open only those types of file which you select as file type, if a document is already opened the second document opens in a new window.

Figure 9.10 : Opening a Document

Saving a Document

We can save the documents created by performing any one of the actions mentioned herewith :

- Choose File Save
- Press CTRL + S
- Choose the save button on the standard toolbar.

If the said actions are performed for the first time, then a Save dialog box as shown in figure 9.11 will appear. Enter the file name and click Save. Here you can save the file with the same name or other name. Directly click on Save. This will overwrite the last saved file. If you give different name in File Name option then the file will be stored with the other name you have given. The file is saved with the latest changes you have made in the file and at the same time last saved file will remain with the original name. The extension of the file name will be .odt.

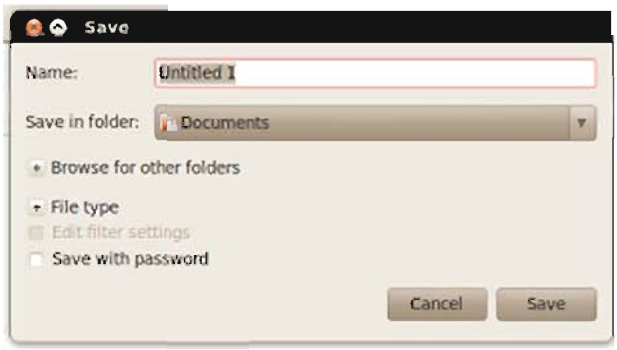

Figure 9.11 : Save Dialog Box

Saving a Document Automatically

To make sure that the data we are writing in the document doesn't get lost in case of eventualities like power failure, Open office provides a feature of auto save. Setting this option forces the Writer software to save your document automatically at regular intervals. Automatic saving, like manual saving, overwrites the last saved file. To set up automatic file saving:

- Select Tools → Options → Load → Save → General.
- Click on Save Auto Recovery information and set the time interval.

This will allow us to set the time interval. The default time interval is 15 minutes. You can change the time value as per your requirement.

Saving as a Microsoft Word Document

It may happen that you have to share your documents with others and the person you are sharing with, not necessarily use the OpenOffice Writer. Sharing with other is only possible if other person install OpenOffice on his computer or you should be able to convert your *.odt file in MS-Word form before sharing it. Fortunately Writer provides the facilities that the document created in Writer can be saved in MS-Word form. To save document in MS-Word form

- Click File → Save As. The Save dialog box will appear as shown in figure 9.12. On the Save dialog box, in the File type drop-down menu, select the type of Word format you need.
- Click Save.

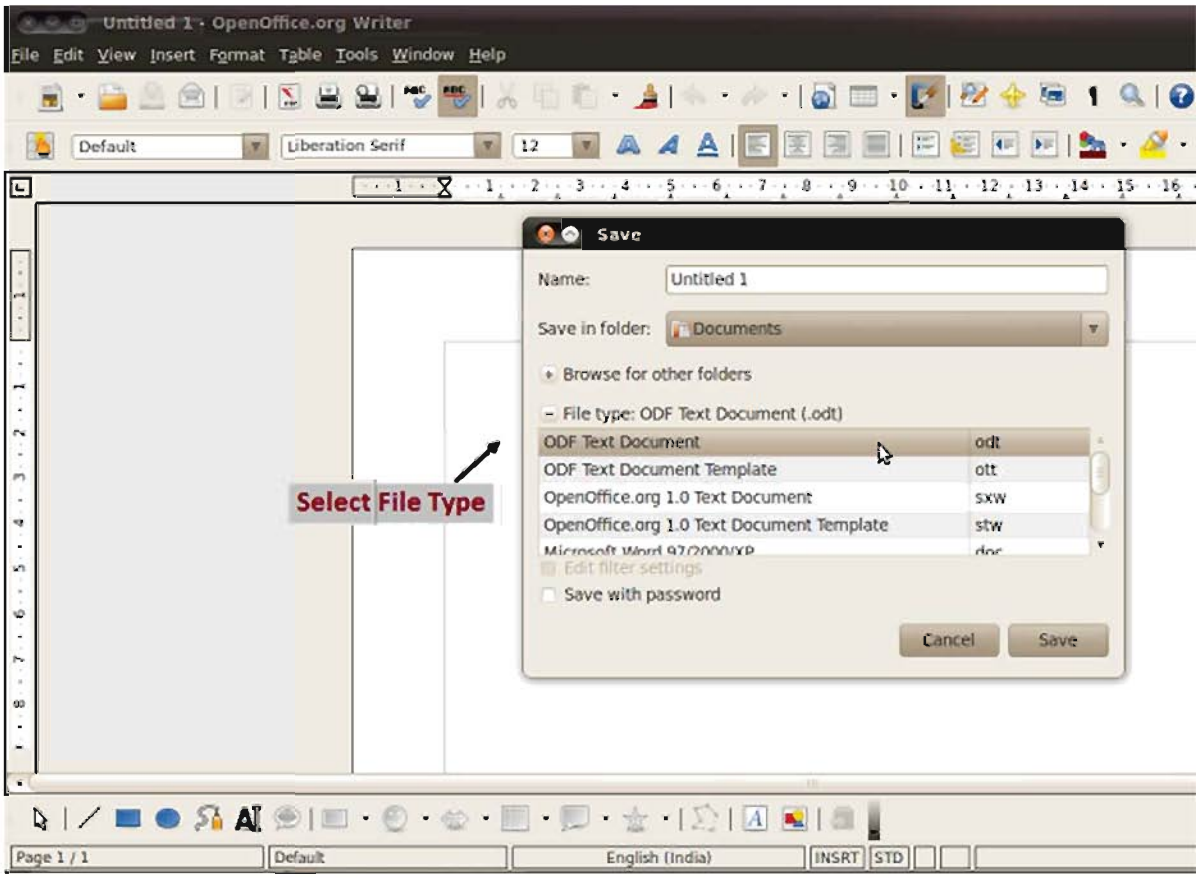

Figure 9.12 : Dialog Box to Save File in Other Formats

You should note here that before you save the document in MS-Word format, you have to save your document in the file format used by OpenOffice Writer (i.e..odt), otherwise, any changes you

made since the last time you saved will only appear in the Microsoft Word version of the document. From this point on wards, all changes you make to the document will occur only in the MS-Word document. If you want to work with the .odt version of your document, you have to open it again.

Note :

To have Writer save documents by default in the Microsoft Word file format, Go to Tools → Options → Load → Save → General. In the section named Default file format, under Document type, select Text document, then under Always save as, select your desired file format.

Saving a File With Password

Writer provides document protection that is you can save your file with password. This document protection is compatible with Microsoft Word file protection. To protect the file with password perform the steps mentioned:

- Use File → Save As when saving the document. When you are saving a new document for the first time File → Save option can also be used.
- On the Save dialog box, select the Save with password option, and then click Save. (See figure 9.13)

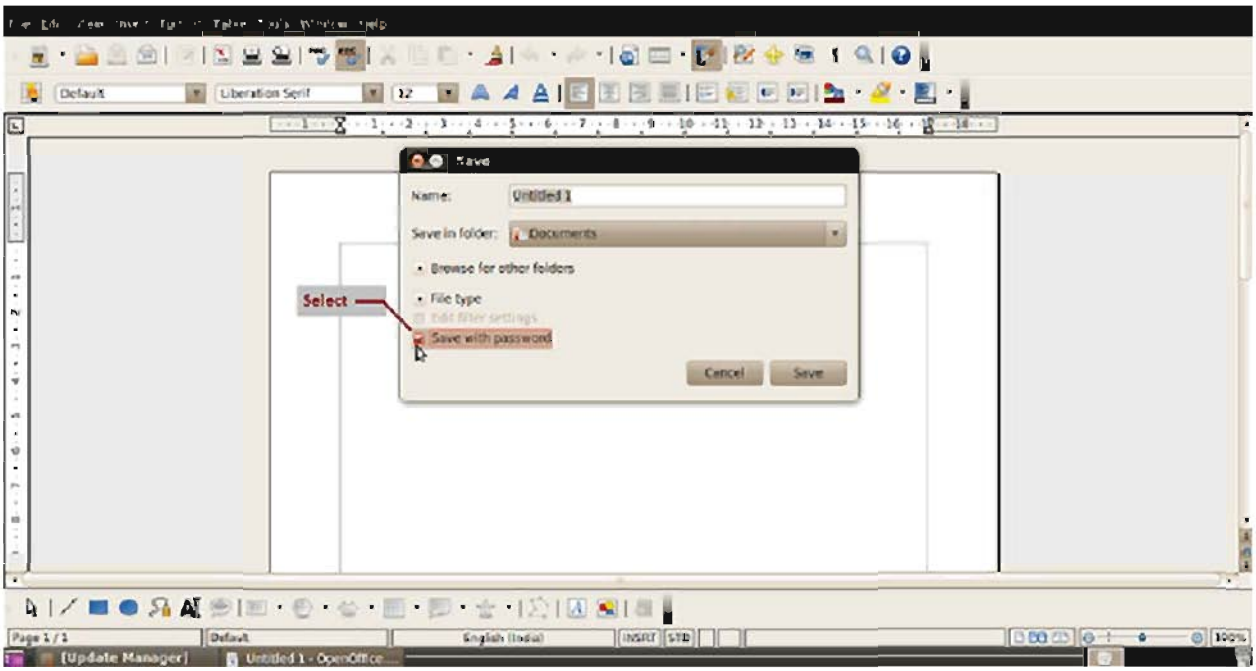

Figure 9.13 : Save File With Password

Doing so, an Enter Password dialog box will appear as shown in figure 9.14. If you type the password in Enter Password text box and then by re-entering the same password again in Reenter password text box, your file will now be password protected.

Figure 9.14 : Enter Password Dialog Box

Document View

Writer provides three different ways to view a document. They are Print Layout, Web Layout and Full Screen. Each of them is discussed in brief herewith.

Print Layout View

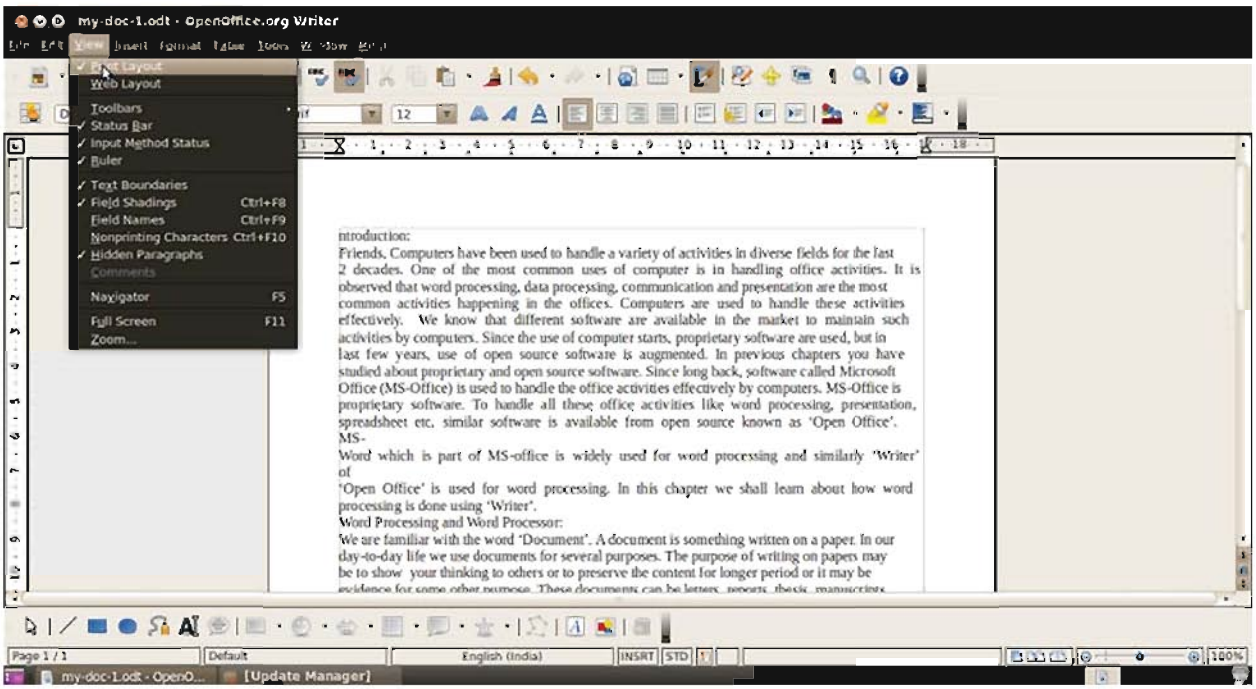

Figure 9.15 : Print Layout View

The default view option in Writer is the Print Layout view. It will show you the document in the similar manner as it will be printed (see figure 9.15). Within the Print Layout, the document can be viewed in single page, side-by-side pages and book style.

To switch from one sub view to another sub-view, respective icon shown on Status Bar, are selected. Document can be edited in any of these three layouts. Within any layout view magnification can

also be changed using Zoom slider, shown on the Status Bar shown in figure 9.17. Magnification can be reduced or amplified by clicking on the – and + signs or by dragging the Zoom slider. Alternatively right click on the zoom level percentage and then choose the desired value.

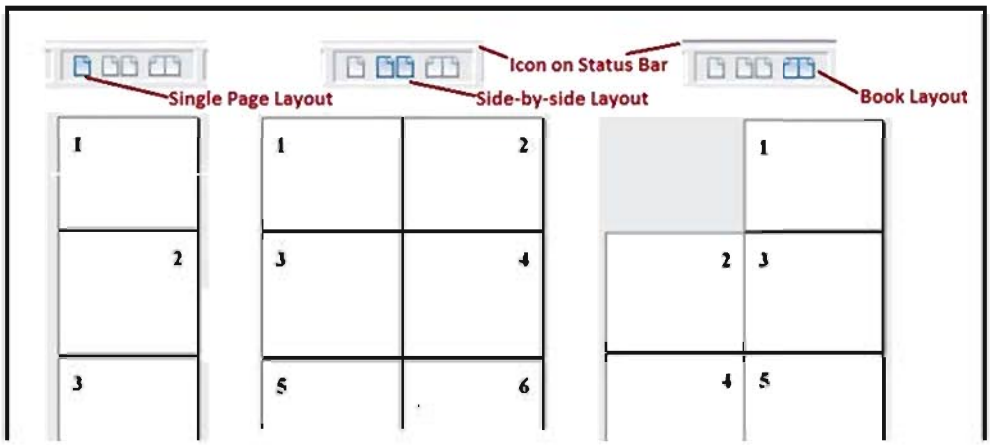

Figure 9.16 : Sub View of Print Layout

Figure 9.17 : Zoom Slider

Web Layout View

In Web Layout View, no margin, no bold or italic effect or no justification (unlike Print Layout View) is visible. Figure 9.18 shows a document opened in web layout view. The options of the Zoom & View Layout Dialog Box here are disabled. But we can use Zoom slider in Web Layout view.

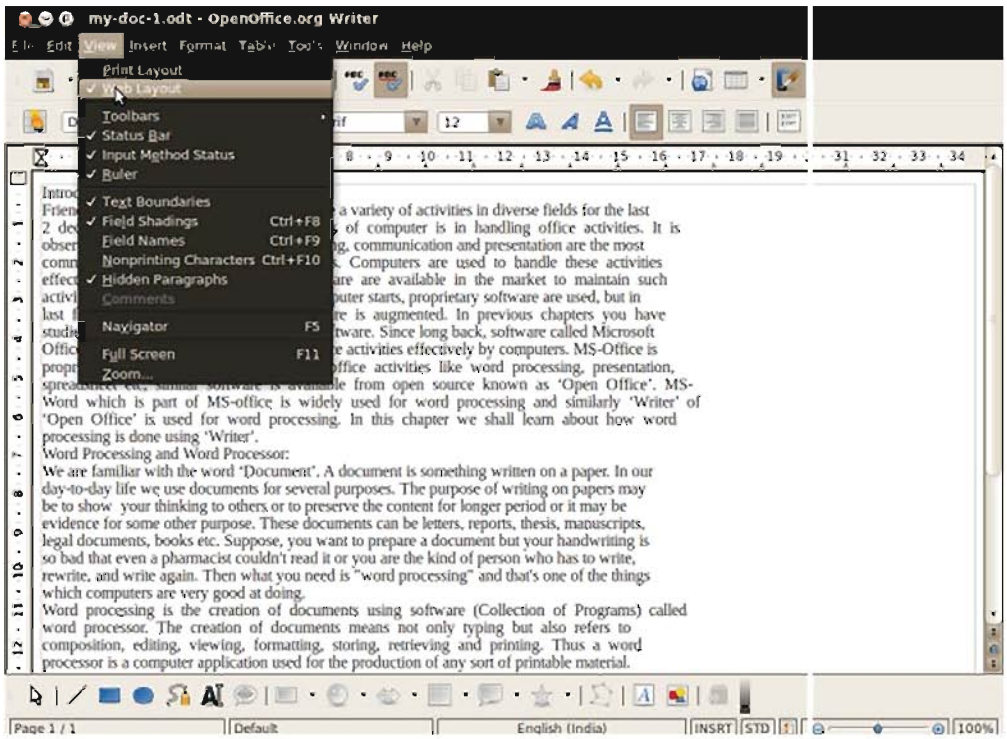

Figure 9.18 : Web Layout View

Full Screen View

In Full Screen view, Title Bar, Menu Bar and status Bar are not visible. The content and the full screen icon is visible. Rulers are also visible if it is enabled (see figure 9.19). Esc key is pressed or Full Screen Icon is clicked to exit Full Screen view. Another way to come out from the Full Screen View is to press CTRL + SHIFT + J.

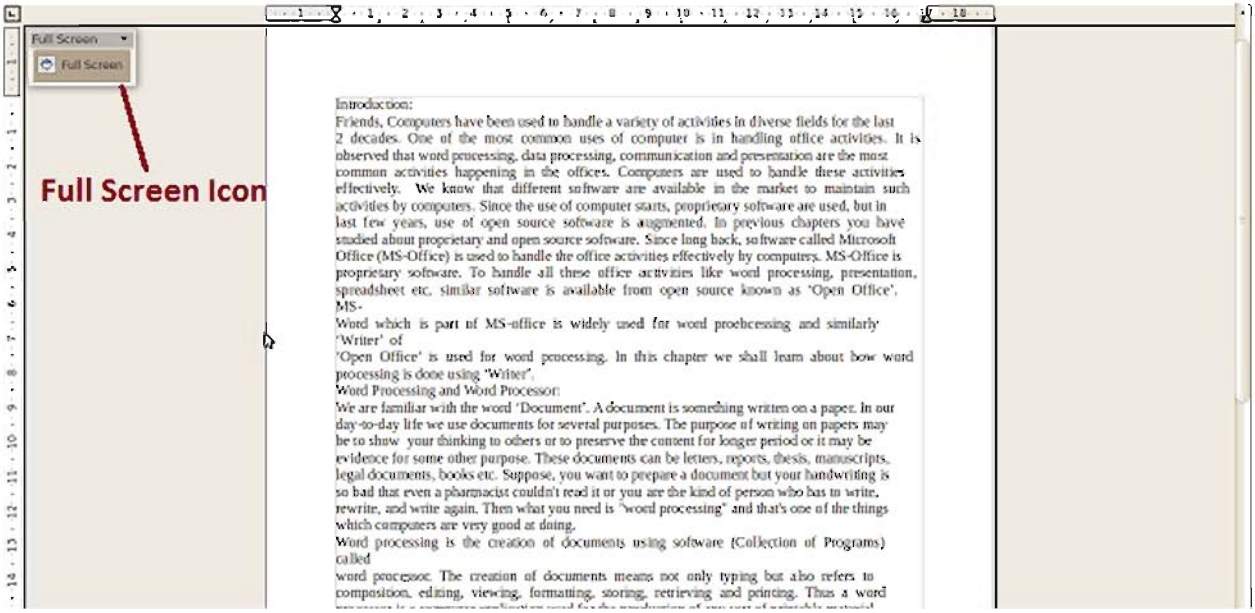

Figure 9.19 : Full Screen View

You can also choose View → Zoom from the menu bar to display the Zoom & View Layout dialog box (see figure 9.20), where you can set the same options as on the Status bar.

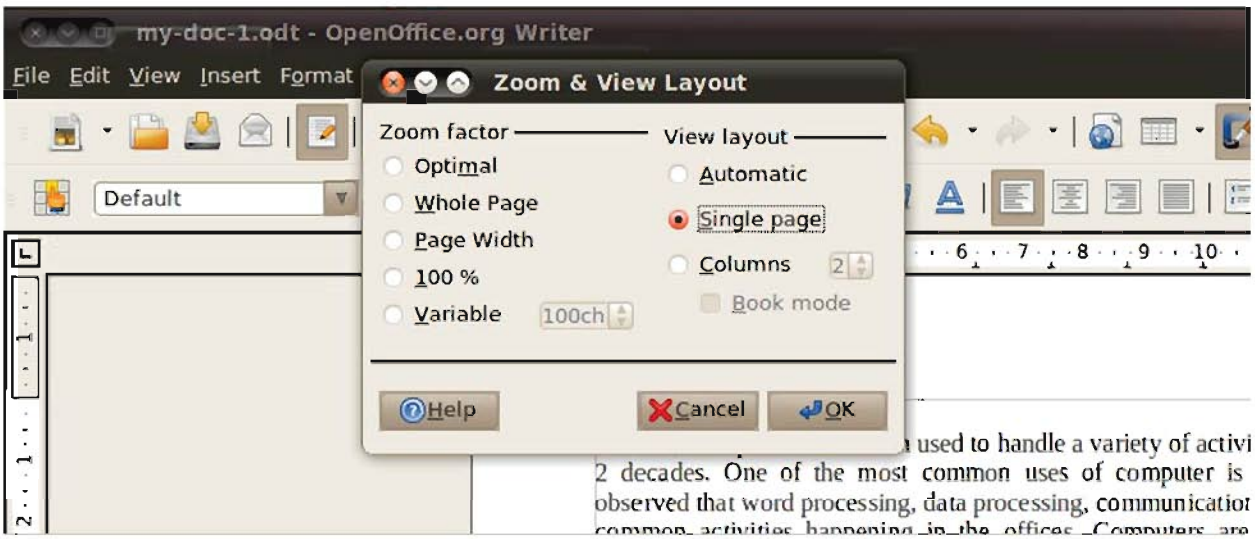

Figure 9.20 : Zoom and View Layout Dialog Box

Closing a Document and Closing OOo Window

To close a document, select File → Close or Click the Close icon on the left top of the document window (see figure 9.21) on the document window. By doing so, the document and the Writer

will be closed, if only one document is opened. If more than one window is open, then current window will be closed and the other OOo windows will remain open.

Figure 9.21 : Close Button

If the document has not been saved since the last change, a message box is displayed. You will have three options. Save, Discard and Cancel. If you choose Save; The document is saved and then closed. In case when Discard is chosen all modifications since the last save are lost and the document is closed. If Cancel is chosen then nothing happens, and you return to the document. Writer can also be closed by selecting File → Exit.

Getting Writer Help

Writer provides several forms of help. By pressing F1 a full Help can be attained or selecting Help → OpenOffice.org Help from the menu bar.

Summary

In this chapter we have learnt about word processor software, characteristics of word processing software. We also saw the working of open source word processor called Writer and how to create a document using it. We learnt how to save and protect your document with password.

EXERCISE

1. What do you understand by Word Processing ?
2. Which are the components of Office suite ?
3. Write at least one advantage and one disadvantage of Electronic Type Writer.
4. Why word processing is required ?
5. Write all the menu options of Writer.
6. Write the steps to move a selected block in the beginning of the document.
7. Can you save a Writer Document as a Microsoft Word Document ? If yes, How ?
8. Write steps to save a file with password.
9. What will you do to save your file automatically after every 30 seconds ? Write all the steps clearly.
10. Which are the different views to display a document ?
11. **Choose the most appropriate option from those given below :**

    (1) Which of following is not the component of the Office Suite ?

    (a) Writer (b) Impress

    (c) Internet Explorer (d) Base

(2) The most widely used word processing software in late 1970's is :

(a) Word Perfect (b) Word

(c) Word Star (d) Writer

(3) We can change the mistakes noticed in which of the following ?

(a) Electronic type writer (b) Word processor software

(c) Simple type writer (d) Both (a) and (b)

(4) To insert Header and Footer we have to go to which of the following menu ?

(a) File Menu (b) Insert Menu

(c) View Menu (d) Edit Menu

(5) To hide / view ruler we have to go to which of the following menu ?

(a) Tools Menu (b) Insert Menu

(c) View Menu (d) Edit Menu

(6) To check the grammar we have to go to which of the following menu ?

(a) Tools Menu (b) Insert Menu

(c) View Menu (d) Language Menu

(7) To replace a word Bombay by Mumbai, we have to go to which of the following menu ?

(a) Tools Menu (b) Insert Menu

(c) View Menu (d) Edit Menu

(8) To close an opened document, we have to go to which of the following menu ?

(a) File Menu (b) Insert Menu

(c) View Menu (d) Edit Menu

(9) Which of the following is the default extension of the writer file ?

(a) .obt (b) .doc

(c) .odt (d) .docx

State whether the statements given below are True or False :

1. To open word processor 'Window' menu option is selected.
2. Current file name is shown in Status Bar.
3. Open icon for opening a file is part of Standard Tool Bar.
4. Format Menu contains the options that apply to whole document.
5. It is possible to open a MS-Word file in Open office – Writer.
6. We cannot open Open Office – Writer file in MS-Word.
7. A Tool Bar can also be moved like a selected block of a document.
8. Templates are pre-defined and exist in the office suite, we cannot create our own.

9. If we close a document, Writer itself will be closed when only one document is opened.

10. To open a document from a pen drive, it is required to be copied on the desk top first.

PRACTICAL EXERCISE

Perform the following exercise on your computer and write all the steps :

1. Open Writer with the help of icon and Exit. Again open Writer from the Applications options available on the desktop.

2. Draw all the icons of Standard Toolbar and write its use in your practical note book.

3. Draw all the icons of Formatting Toolbar and write its use in your practical note book.

4. Create a new text document (using Menu bar) showing your name, address and the name of your school. Save this file with name **mydocument1** at the desktop location.

5. Open the document **mydocument1**, modify it by adding your division and name of your class teacher. Save this file as **mydocument2** at any other location.

6. Open both the documents and switch from one to other. Close one of them and save other as **mydocument3** with password.

7. Open the document **mydocument3** and zoom it for 50%, 75%, 130% and 200%.

Editing and Formatting Documents

In the previous chapter, you have studied the features of word processor; how to create a document, how to save it and how to close the document. If you have tried to create a document on computer, I hope now you are familiar with the use of mouse and keyboard. This chapter covers the basics of working with text in Writer. Editing in existing documents and formatting as per our requirement will be covered in this chapter.

Selecting Text

One way to change the cursor position from one place to another with the help of keyboard is by using arrow keys. To reach to a particular position with the help of mouse is simply to take the mouse pointer at the desired place and click the left button of the mouse.

When we want to work with more than one character, we need to select them. The way of selecting the text in Writer is similar to the way we do it in any other applications. That is, using mouse, we start from the first character of the text to be selected and by dragging the mouse till the last character of the text to be selected. The same can be done with the help of keyboard; we take the cursor to the left of the first character and then hold down the shift key and using arrow keys taking the cursor to the last character of the desired text. The selected text (consecutive) is called block.

If you want to select only a word, take a cursor anywhere on that word and double click. By triple clicking on any part of the sentence, the current sentence will be selected. The whole document is selected by pressing CTRL + A.

If the text to be selected is not consecutive then to select the text, we follow the steps given below. The text to be selected is not consecutive and therefore there will be more than one blocks of text.

(1) Select the first block of the text, as mentioned above.
(2) To select the next block of text, hold down the CTRL key and drag the mouse from first to last character of that portion. (See figure 10.1)
(3) Select as many blocks as you want using step-2.

It is also possible to select the non-consecutive text using the keyboard. Perform the steps mentioned to select the non-consecutive text using keyboard.

(1) Select the first block of text, as mentioned before.
(2) Press Shift + F8 key. This puts Writer in 'ADD' mode. The word 'ADD' appears on the status Bar.
(3) With the help of arrow keys, move to the start of second portion of text to be selected. Select the next portion using step-1.
(4) Repeat as many times as required using step 2 & 3.
(5) Press Esc to exit from the ADD mode.

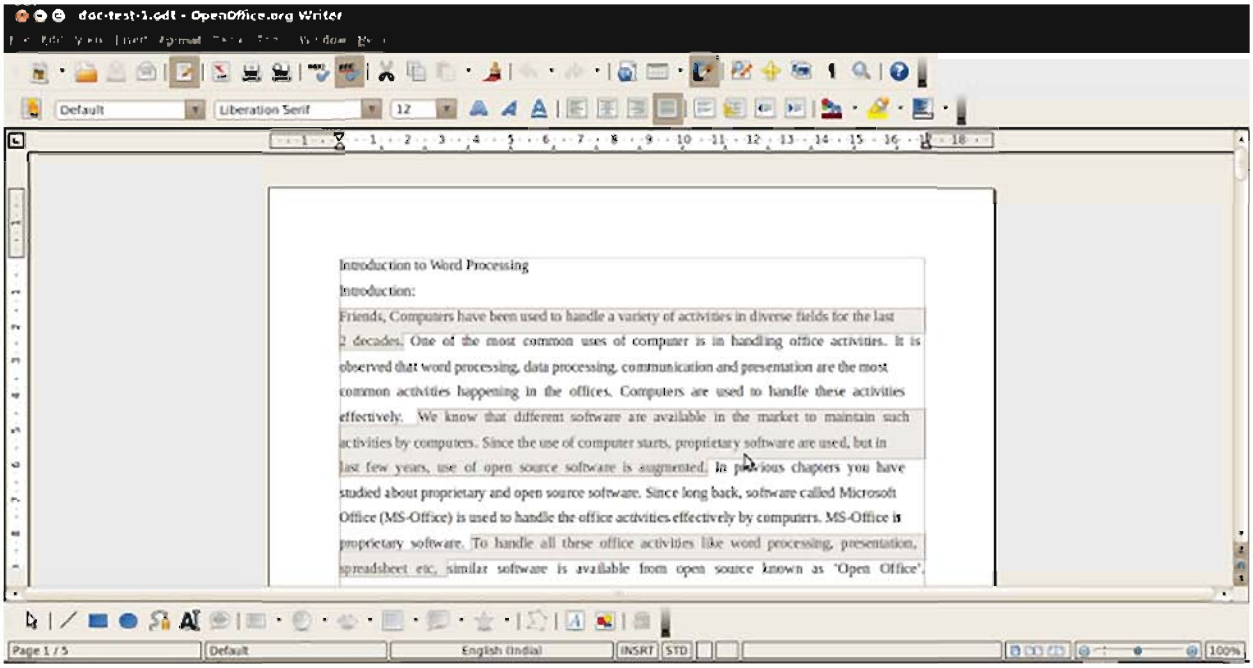

Figure 10.1 : Non Consecutive Block is Selected

One of the unique features of the Writer is to select a vertical block. To select a vertical block perform the steps mentioned :

(1) Click on Edit menu.
(2) Choose Selection Mode option
(3) Select Block Area.
(4) Use mouse to select the desired block. (See figure 10.2)

To switch over to original selection mode, perform the same procedure except for the third step, where you select Standard option.

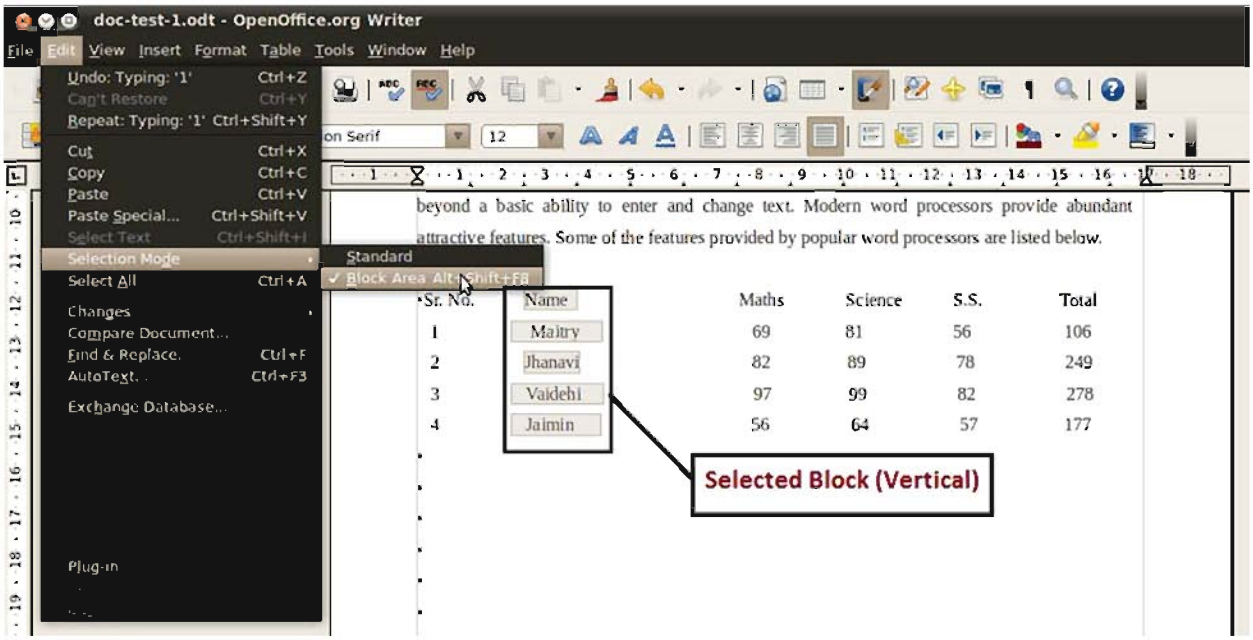

Figure 10.2 : Selected Vertical Block

Alternatively you can select the Block Area by pressing ALT + SHIFT + F8 keys. The ALT + SHIFT + F8 will work as a toggle switch i.e. by pressing the same keys combination again; you can switch over to original mode of selection.

Undoing and Redoing Changes

When a document is open, you can undo the most recent change in three different ways.

- Press CTRL + Z
- Clicking the Undo icon on the Standard toolbar.
- Selecting Edit → Undo from the menu bar.

Figure 10.3 : Undo and Redo in Edit Menu

The Edit menu seen in figure 10.3 shows the latest changes that we can undo in the document. Alternatively you can see the list of all the changes that can be undo, by clicking on a small triangle near the Undo icon. As seen in figure 10.4 you can select multiple changes and undo them at the same time.

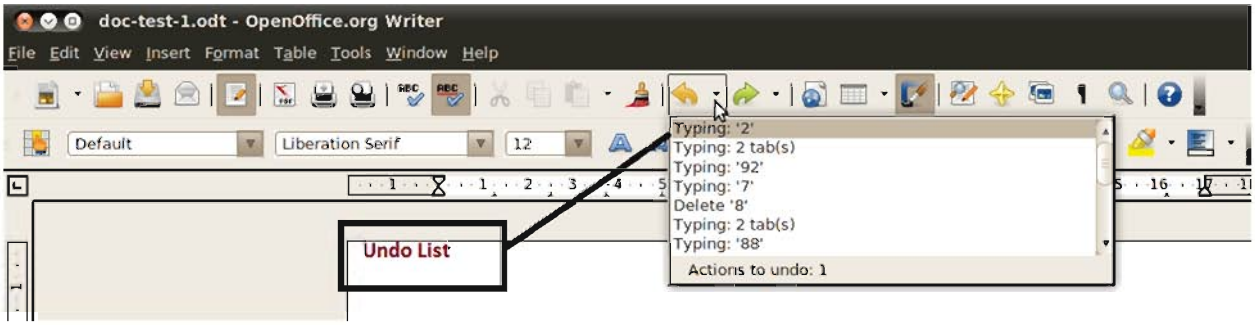

Figure 10.4 : Undo List

Redo becomes active only after changes have been undone. Like Undo, Redo can also be done in three different ways.

- Press CTRL + Y
- Clicking the Redo icon on the Standard toolbar.
- Selecting Edit → Redo from the menu bar.

Click on the triangle to the right of the Redo icon to get a list of the changes that can be redone.

Cutting, Copying and Pasting Text

The process of cutting selected text from one place and pasting it to other place in the same document or in other document is known as moving. Copying on the other hand means that the selected text

will be replicated at some other places also. The original contents that are copied remains at the same place. Both moving and copying are done in four different ways :

(1) **Using Menu options :** Follow the steps given for moving selected text.

(i) Select the text to be moved (Consecutive, Non-consecutive or Vertical).

(ii) From Menu, Choose Edit Cut

(iii) Move the cursor to the position where the selected text is to be moved.

(iv) From Menu, Choose Edit → Paste.

For copying the selected text, same steps are followed except for choosing copy instead of cut in step (ii).

(2) **Using Mouse :** Perform the steps given below for moving text.

(i) Select the text to be moved (Consecutive, Non-consecutive or Vertical).

(ii) Take a mouse pointer to any point of the selected text and drag the mouse to take the mouse pointer to the desired position where the text is to be moved.

(iii) Release the mouse button.

For copying the selected text using mouse, simply hold down the CTRL key while dragging.

(3) **Using keyboard :** The following steps are done for moving text.

(i) Select the text to be moved.

(ii) Press CTRL + X

(iii) Take the cursor to the position where you want the text to be moved.

(iv) Press CTRL + V

For copying the selected text, same steps are followed except for pressing CTRL + C instead of CTRL + X in step (ii).

(4) **Using icon :** Same steps are followed for moving and copying text as shown in method 3-above, except for clicking on cut icon  instead of pressing CTRL + X and clicking on Paste icon  instead of pressing CTRL + V. Copy icon  is used instead of CTRL + C.

Finding and Replacing Text

All occurrences of a particular word or phrase can be found in Writer and the same can be replaced by another text. One way is to use the Find & Replace icon that exists on Standard Toolbar as shown in figure 10.5. The Find & Replace dialog box as shown in figure 10.6 will appear. Here you have to type the word or phrase to be found in 'Search For' text box. If you want only to search the desired text, select 'Find' every time for next search. To replace the found text with some other text, type the new text in 'Replace With' text box.

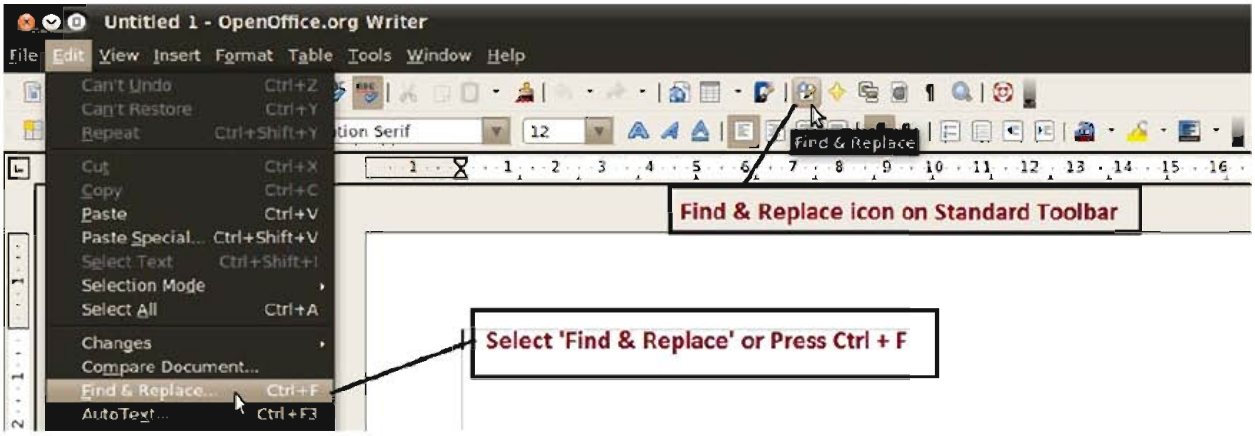

Figure 10.5 : Find and Replace Option

Wildcard characters can be used to find words that have similar pattern. For any single character, '.' can be used. For example, by typing '.ut', you can find different words like cut, but, put and other such three letter words. Square brackets [ ] can be used to find text with any of the character that appear at the specified position. For example, [pb]ut will find only words put and but it will not find the word cut. We can use [a-z] to specify a character range. For example, [k-n]eet will find words like keet, leet, meet and neet if they occur in document. To omit a letter from a search we can use the carot (^) sign. For example, [^c]ut will find words like but, put, hut and not cut. $ symbol can be used as a paragraph marker. If the wildcard character is part of your text to be searched, type a backslash (\) before the character. For example, to find the text $25.00, you would conduct a search using \$25\.00 (Recall that $ and . are wildcard characters).

To use wildcards and regular expressions when searching and replacing perform the steps mentioned :

- On the Find & Replace dialog box, click More Options to see more choices (see figure 10.6). Select the Regular expressions option.
- Type the search text, including the wildcards, in the Search for box and the replacement text (if any) in the Replace with box.
- Click Find, Find All, Replace, or Replace All (not recommended), as per your requirement.

There are many such options but to discuss all the options is beyond the scope this book.

If the Standard toolbar is not visible, you can display it using View → Toolbars → Standard. To display the Find & Replace dialog box, choose Edit → Find & Replace from the menu bar or press CTRL + F on keyboard or click on Find & Replace icon  on Standard toolbar.

You can select various options, such as matching the case, matching whole words only, or doing a search for similar words as per your requirements.

Note that, if you click Find All, Writer will select all the occurrences matching with the search text in the document. Similarly if you select Replace All it will replace all matches, which may result in amusing mistakes and therefore Replace All should be used with extra care. For example, in a document you want to replace the word Bombay with Mumbai. Now if you click Replace All, all the occurrences of Bombay will be replaced with Mumbai. Suppose there is a statement like "Bombay was the name given by English people but now it is Mumbai". What happens if Bombay is replaced by Mumbai ? It will be "Mumbai was the name given by English people but now it is Mumbai", so funny. Therefore it is advised to replace an occurrence matching with the search text one-by-one.

One of the unique features of the Writer is the use of Format option (see figure 10.6) in Find & Replace. For example, all the underlined words can be replaced by Italic style. You may explore this option and try to do some changes in the document.

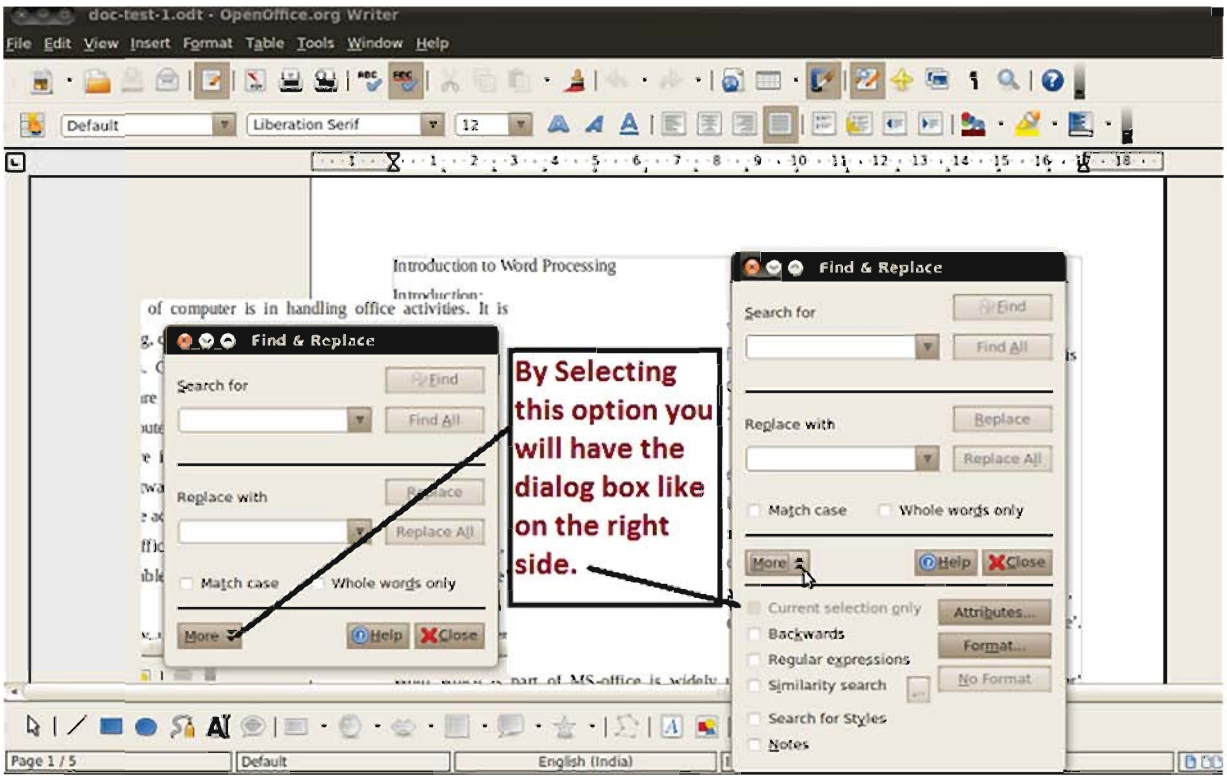

Figure 10.6 : Find and Replace Dialog Box

Inserting special characters

A character which is not found on a standard keyboard is called a 'Special' character. For example, ¥, µ, £, ½, ¾, ±, etc. are all special characters. To insert a special character, follow the procedure given :

(1) Place the cursor in your document where you want a special character to be inserted.

(2) Go to insert menu and select Special Character. The Special Characters dialog box will be opened.

(3) Select the characters to be inserted, in order; then click OK.

The selected characters will appear in the lower left side of the dialog box. At the same time for a selected character, the character will be displayed along with its code on the lower right corner of the special character dialog box.

Formatting Paragraphs

Formatting Paragraphs is the most common requirement in creation of any document and therefore it is most widely used feature of any word processor. Several options in the form of buttons are available for formatting paragraph in Writer. Figure 10.7shows some of these options.

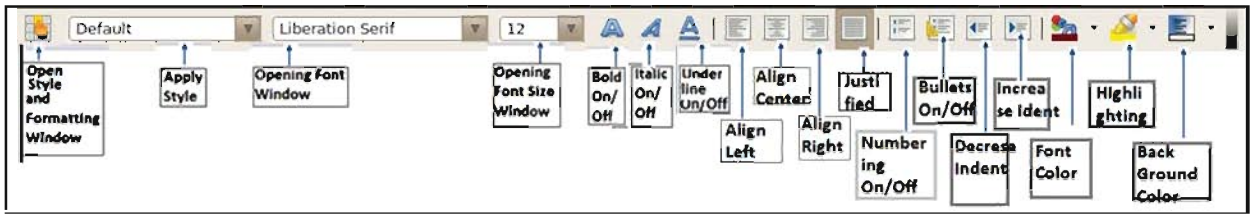

Figure 10.7 : Formatting Toolbar

(1) If you open style and Formatting Window, You will have different options like paragraph style, Text Body, etc... Paragraph Styles can be used for formatting paragraphs.

(2) Opening Font window will give us different fonts for choice. We can select the desired.

(3) Font size can be set from Font Size Window.

(4) By clicking on  the bold effect can be made On/Off for selected text. If the text is not selected the effect will be from the cursor position. Similarly is for italic style and  is for having the underline effect for selected text.

(5) For alignment you have four effects. See the figure 10.8 for this effect.

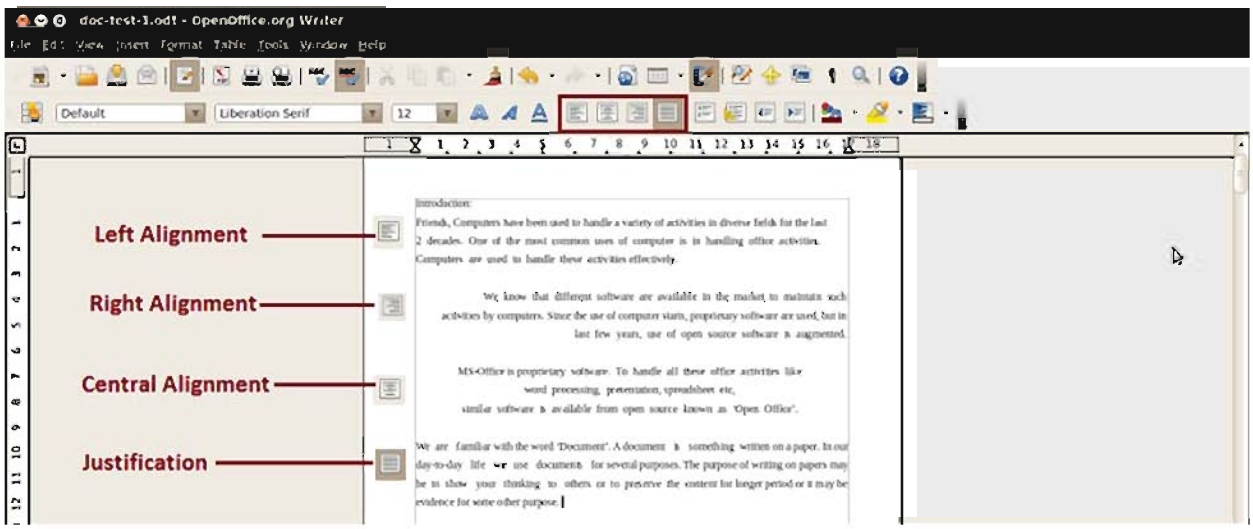

Figure 10.8 : Alignments

(6) Next two options are for Numbering and Bulleting. Numbers or bullets can be inserted in the beginning of each paragraph for the selected text. Numbering option also allows us to change the style of numbering (i.e. 1, 2, 3, … or i, ii, iii, iv, … or a, b, c, …). Similarly using bullet option we can change the symbols for bulleting (●, ◆, ■, ✓ etc).

(7) Next two options are decreasing and increasing indents respectively for the current or selected paragraphs.

(8) Font color is set using Font Color option.

(9) The selected text can be highlighted with the help of next option called highlighting. The last option will allow us to change the Background color of the selected text.

When using justified text, the last line of the paragraph is aligned to the left.

Creating Numbered or Bulleted Lists

To create a numbered or bulleted list, select the paragraphs in the document and then choose either Numbering icon or Bulleting icon on the format toolbar shown in figure 10.7, as per your requirement. If you select Numbering or Bulleting icon before typing, it will apply automatically while typing. A nested list of numbering or bulleting can also be created. For this you have to choose appropriate option from Bullets and Numbering toolbar shown in figure10.9. Alternatively if you press Tab key in the beginning of the line, the nested list is created.

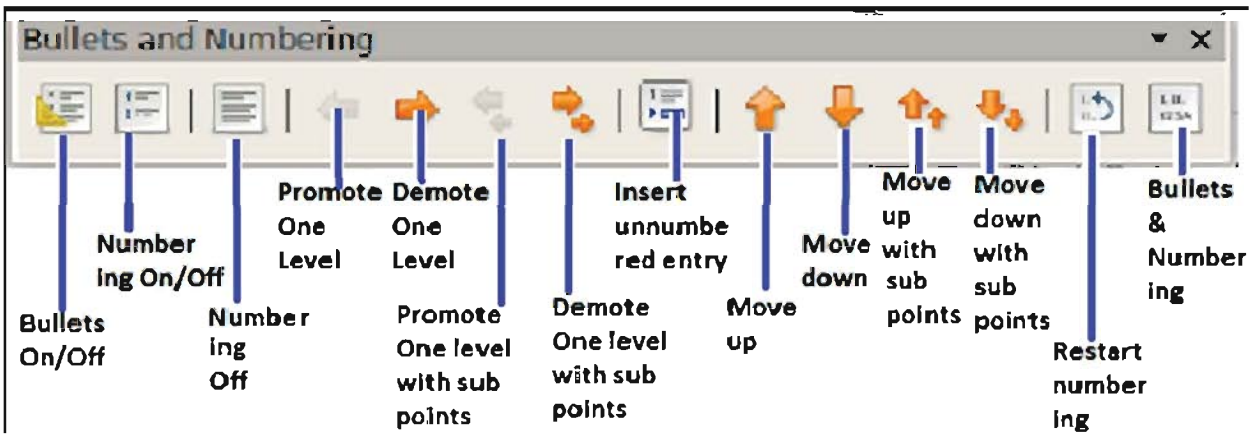

Figure 10.9 : Bullets & Numbering

If you create a nested list using the predefined styles, all the levels of the list (up to 10) apply the same numbering (or bullet). However, in many circumstances you want to use a combination of numbering formats and bullets when creating nested lists. Such lists, with a mixture of numbering formats and bullets, are also possible. By pressing the Bullets & Numbering option (last option in figure 10.9), the Bullets and Numbering dialog box will be displayed. You can select the desired one as shown in figure 10.10.

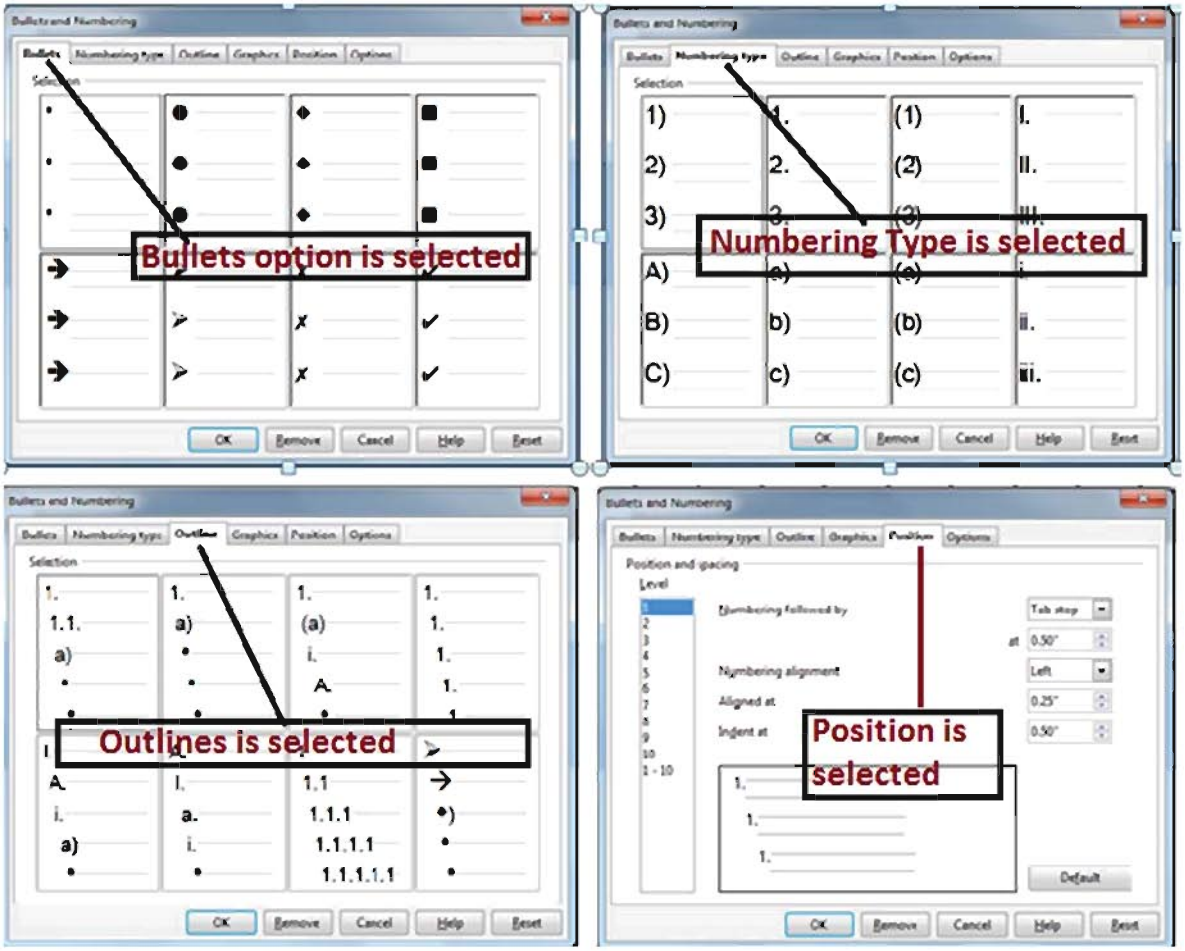

Figure 10.10 : Options of Bullets & Numbering

Checking Spelling and Grammar

Spelling checker is available in Writer. AutoSpellcheck spelling checker checks each word, as we type it. Writer puts a red line under any misspelled words (A word is considered to be misspelled if it is not present in the stored dictionary of Writer). The red line will disappear if it is corrected or ignored by selecting ignore option, available on pressing right click. If you don't know the correct spelling, right-click on the word with a red underline, possible suggested words will appear with several menu options. If you select any word from the suggested words, the misspelled word in your text will be replaced by the word you have selected.

Writer at times will identify a correct spelling as a wrong word. This happens because of non-availability of the word in the Writer dictionary. You can add words in the Writer dictionary. For example it may happen that you need to type your company name frequently in a document. If you type your company name, obviously it will be shown as misspelled as it is not there in the Writer dictionary. When a red line is shown under the word (Company name), just right click and select 'Add' option. The name of your company will be added in the dictionary. Then onwards, the name of your company will be treated as a correct word.

To perform a separate spelling check on the document (or a text selection) click  button. This checks the document or selection and opens the Spelling and Grammar dialog box as shown in

figure 10.11. If any misspelled words are found, choose the correct option from the dialog box. The misspelled word will automatically be replaced with the selected one.

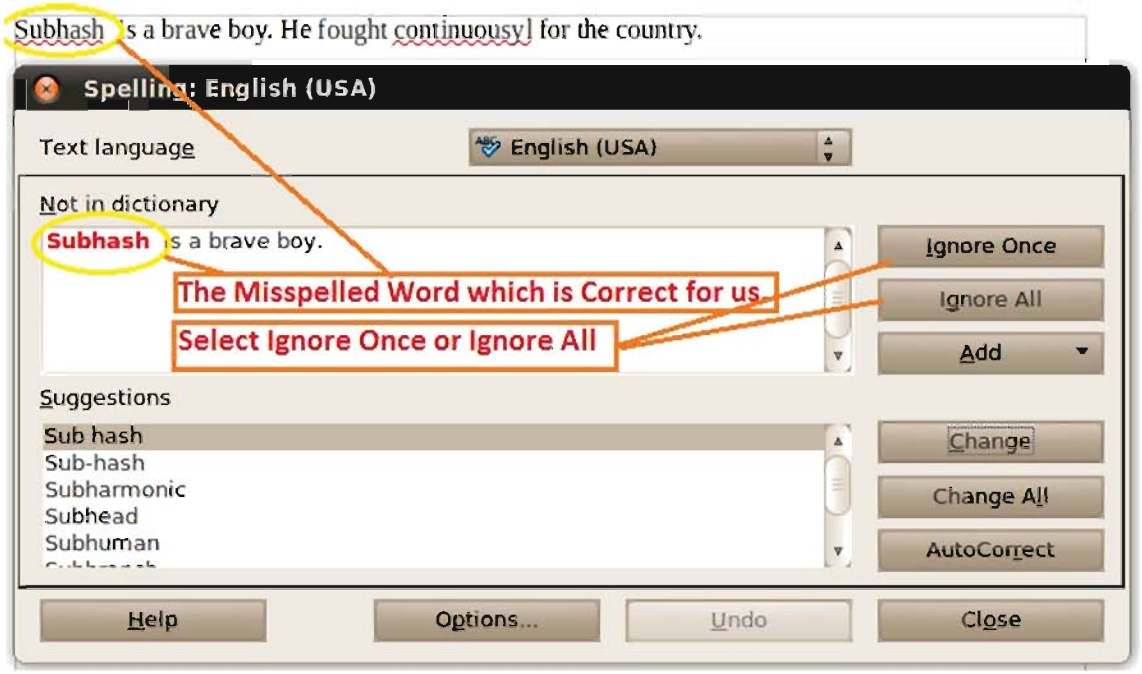

Figure 10.11 : Spelling Checking Dialog Box

Here you can change language, you can ignore the misspelled word once or every such occurrence in the document or you can change the misspelled word by a selected word from the suggestion. For example, in figure 10.11 Subhash is name of a person, but since it does not exist in Writer dictionary, it is considered as misspelled. We can select either ignore once or Ignore all. It is also possible to add this word in the dictionary if it will be reused, as mentioned above. Other options can also be used as per our requirement.

Using Synonyms and the Thesaurus

Right-click on a word or phrase, whose meaning you are looking for and select Synonyms from the pop-up menu. A submenu of alternative words and phrases is displayed. Click on a word or phrase by which you want the highlighted word or phrase to be replaced. If you select the thesaurus option, you will get a more extensive list of alternative words and phrases.

Figure 10.12 : Selecting Thesaurus

The thesaurus can also be obtained from Menu. Select a word or phrase for which the thesaurus is to be obtained and then go to Tools menu and then select Language → Thesaurus as shown in figure 10.12, the 'Thesaurus' dialog box will be displayed as shown in figure 10.13. You can press CTRL + F7 instead of selecting menu options, to get the thesaurus.

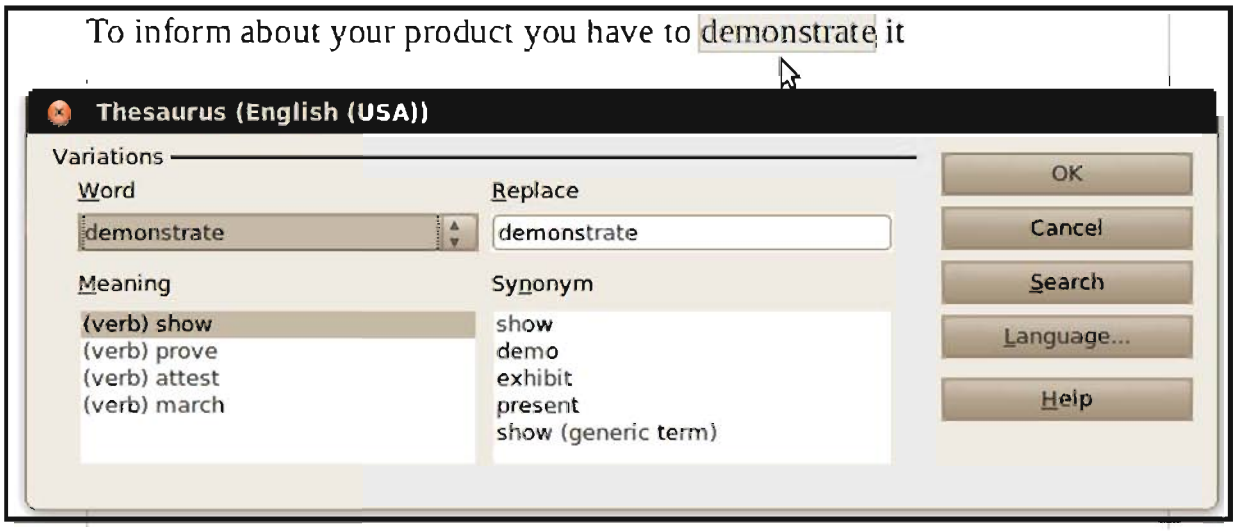

Figure 10.13 : Thesaurus Dialog Box

In figure 10.13, you can see the Synonym of the word demonstrate. The same could be obtained with the right click on the word or phrase. Here the difference is: you can have Synonym depending on the meaning. That is if you select other meaning, the list of Synonym will be different. For example, if you select meaning of demonstrate as attest, the Synonym would be different. It should be noted that if the current language does not have a thesaurus installed, you won't be able to use this feature.

Using AutoCorrect

Writer's AutoCorrect function is used to correct the typing error up to some extent. There is a long list of common misspellings and typing errors is stored in the Writer's AutoCorrect function. When such misspelling is encountered, Writer corrects it automatically. For example, people used to write "aggresive" instead of "aggressive" or "suppossed" instead of "supposed" and when such misspelling are encountered it will be corrected automatically. From the Menu bar, choose Tools → AutoCorrect options, the AutoCorrect dialog box will be opened, where you can see the table of incorrect and correct words. Here you can add new set of words. For example you have habit to type "sunami" instead of "tsunami", you can add the incorrect and correct words in the table. AutoCorrect is on, by default. If you don't want to use the AutoCorrect function of Writer you can turn it off, uncheck Format → AutoCorrect → While Typing. If you do not want Writer to replace a specific word, you can delete it from the table also.

Using word completion

The Word completion facility is little different than AutoCorrect facility. While typing as and when you type two-three characters, Writer tries to guess which word you are typing and offers to complete the word for you. To accept the suggestion, press Enter. Otherwise, continue typing. Note that this facility is available only for those words which are already typed in the same document that is the word completion facility is available for a word getting typed at least for second time. To make this facility Enable or disable select Tools → AutoCorrect Options → Word Completion and select or deselect Enable word completion.

Using AutoText

Like other word processor, Writer also provides AutoText facilities. Using AutoText we can store text, tables, fields, and other items for reuse and assign them to a key combination for easy retrieval. For example, suppose you have to write a letter to a particular person frequently, say to the Registrar of a University.

Figure 10.14 : Entry for AutoText

Then you can create the contents shown in figure 10.14 as AutoText and can give a shortcut key, say R. Now whenever you want to use this text, simply type R and press F3. The content shown in the figure 10.14 will be typed automatically.

Creating AutoText

(1) Type the text into your document. (In our example the content of figure 10.14)

(2) Select the text to be stored in the Autotext.

(3) Go to Edit → AutoText (or press CTRL+F3).

(4) In the AutoText dialog box as shown in figure 10.15, type a name for the AutoText in the *Name* box. (say rgtu)

(5) Writer will suggest a one-letter shortcut, which you can change. (say R for example)

(6) In the large box to the left, choose the category for the AutoText entry, for example *My AutoText*.

(7) Click the AutoText button on the right of the dialog box and select New.

(8) Click Close to return to your document.

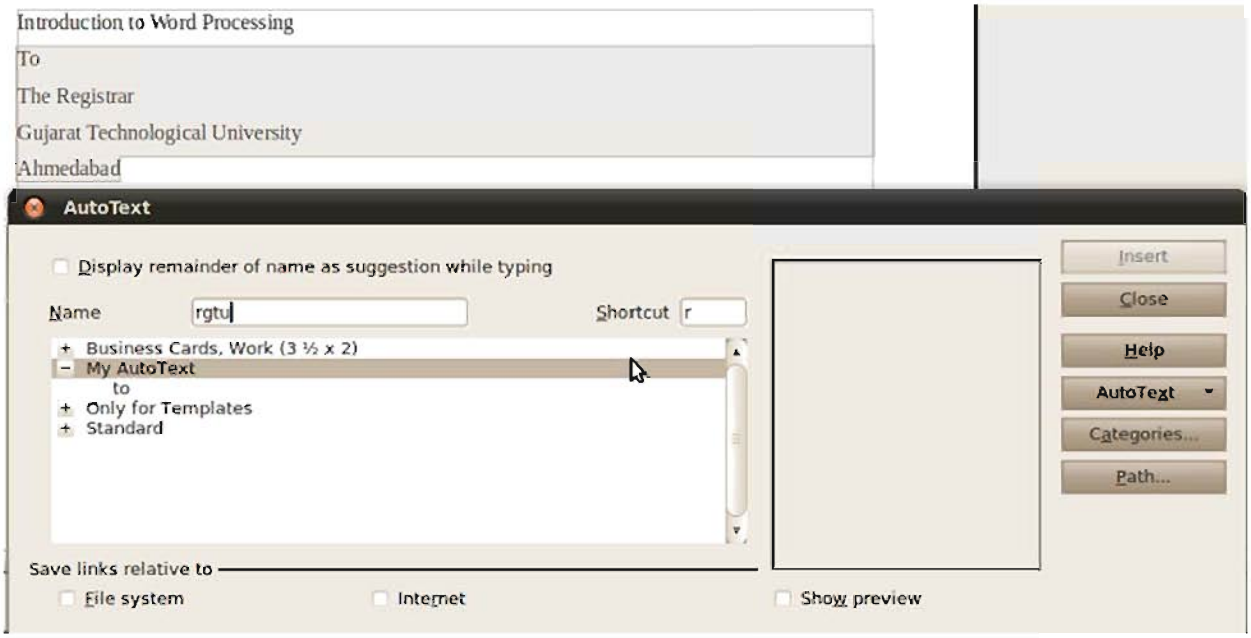

Figure 10.15 : AutoText Dialog Box

Line Numbering

Line numbers can be inserted for the selected lines. Line numbers are placed in the margin. If you see the 'Print layout view' you can also see these line numbers on the screen. The line numbers can be printed also. To give line numbers, select the lines to which the numbers are to be assigned. Click Tool → Line Numbering and then select Show Numbering option in the Line Numbering dialog box. Then click OK. You can select the numbering type and whether numbers restart on each page. You can also set at what interval, you want the next number. See figure 10.16 for numbering the lines.

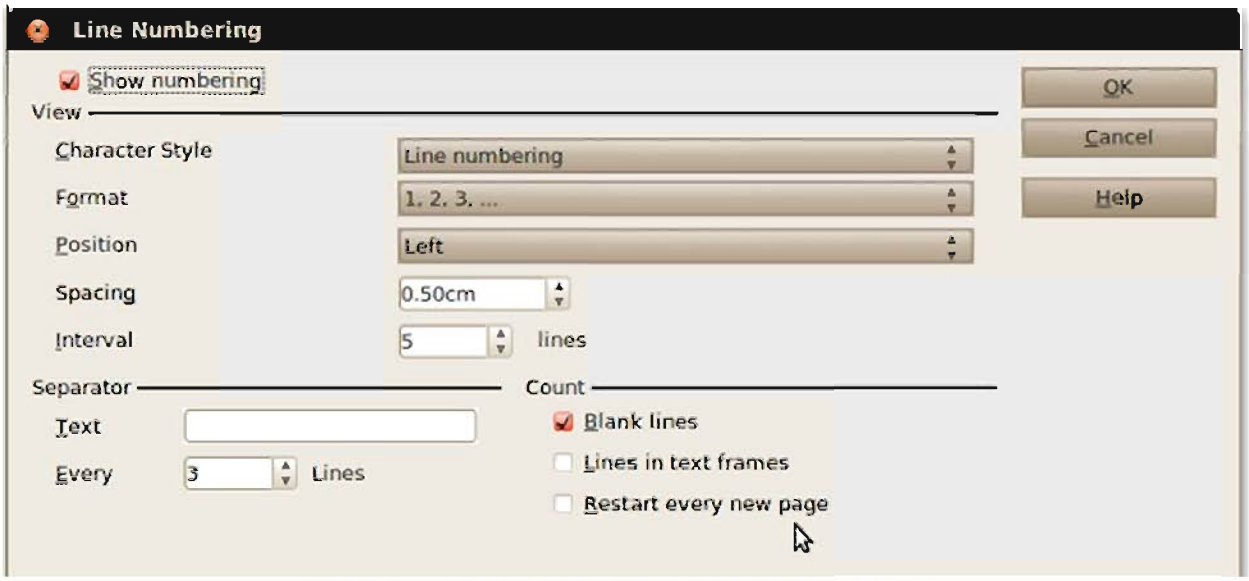

Figure 10.16 : Line Numbering Dialog Box

Insert and Overwrite Mode

We know 'to insert' means whatever we are typing in insert mode, the text already typed after the cursor position shifts forward to make room for the text you are typing. In the 'Overwrite'

mode whatever we are typing will replace the text already typed on those positions. To switchover from 'Insert' mode to 'Overwrite' mode or vice versa, simply press *Insert key on the keyboard.* The current mode is displayed on the Status Bar. With the mouse, clicking in the area on the Status Bar we can also switch to the other mode.

Counting the Words in a Selection

Select a block of text and choose Tools → Word Count. Writer displays the number of words and characters in the selection as well as the number of words in the document. You can also see the number of words and characters in the entire document in File → Properties → Statistics.

Changing the Case of Selected Text

Case of the text can be changed once it is typed. To change the case of text, select the text for which you want to change the case. Choose Format → Change Case from the menu bar, and then choose the desired option. Five options are available for changing the case. Sentence case: If you select this option the first character of the first word and the first character of any proper noun will be capitalized. '.' is considered as the end of the sentence. Lower case option is used if you do not want any character capital. With the help of UPPER CASE option you can convert all the characters in capital. tOGGLE cASE option is depending on the case in which you have typed. This option will simply change every letter to the opposite case.

Summary

In this chapter we learnt about how to edit and format a document. We saw how to select consecutive and non-consecutive texts, learnt how to perform operations of cut, copy and paste. Looked at mechanism available to find and replace a word or a phrase. We also learnt different formatting techniques that could be used to make our document more readable and presentable.

EXERCISE

1. Write all the steps to select a non-consecutive text in Writer.
2. How will you select the vertical block ? List the steps in order.
3. How do you define the special characters ? How will you insert it in a document ?
4. Which are the steps to count the total words of a document ?
5. **Choose the most appropriate option from those given below :**

   (1) Which of the following technique selects a sentence in Writer ?

   (a) Single click (Pressing left button of mouse)

   (b) Double Click

   (c) Triple Click

   (d) None of the above

(2) Which of the following is the short cut key to Redo any operation ?

(a) CTRL + R (b) CTRL + X

(c) CTRL + Y (d) CTRL + Z

(3) To find a word in a document we can use which of the following function key ?

(a) F5 key (b) F8 key

(c) F1 key (d) All of these

(4) While creating numbering list we can go up to which of the following level in case of nested list.

(a) 5 (b) 6

(c) 16 (d) 10

(5) Spellings are corrected automatically in Writer because of which of the following feature ?

(a) Auto Text (b) Auto Correct

(c) Auto Complete (d) All of these

(6) Which of the following menu is to be used to check spelling ?

(a) Edit (b) Format

(c) Tools (d) English

6. State whether the following statements are True or False :

(1) Writer does not permit to copy a selected text in to another document.

(2) It is possible to copy a selected text without using Menu options and key-board options.

(3) To open the 'Find & Replace' dialog box, we have to go to Format menu.

(4) We can find all the **bold** text using in a document 'Find and Replace' feature of Writer.

(5) We can find all the cities included in a document using 'Find and Replace' feature of Writer.

(6) While typing if an incorrect spelling is detected a red line is marked under it. After correcting it, a red line is converted into green line.

PRACTICAL EXERCISE

1. Open the file mydocument1 and type the text given in the box below :

The Word completion facility is little different than AutoCorrect facility. While typing as and when you type two-three characters, Writer tries to guess which word you are typing and offers to complete the word for you. To accept the suggestion, press Enter. Otherwise, continue typing. Note that this facility is available only for those words which are already typed in the same document that is the word completion facility is available for a word getting typed at least for second time.

Close the document and save it.

2. Open the mydocument2 and type at least 10 cities of Gujarat state. Use Cut and Paste to arrange them in dictionary order.

3. Open the document mydocument3 and copy the first three sentences from mydocument1 and close both the files.

4. Open mydocument2 and type the following at the end of the document :

Roll No.	Name	City	Total Marks (Out of 200)
01	Manushi	Gandhinagar	172
02	Shivam	Vadodara	154
03	Ayush	Surat	138
04	Yashri	Nadiad	169
05	John	Rajkot	145
06	Mohmad	Anand	151

Copy name of the cities from the above text and paste it in mydocument3. Close both the documents.

5. Open mydocument2 where you have stored 10 cities in dictionary order. Delete cities at position number 3 and 7. Undo your deletion and delete cities at position number 5 and 8.

6. Open mydocument1. Find all the occurrences of the word 'the' and replace it with 'a' if it is not in the beginning of the sentence.

7. Open mydocument3 and insert a character ○ in front of all the cities except 'Nadiad'. Insert the character ◉ in front of 'Nadiad'.

8. Find out the number of words for the third paragraph.

9. Type your own address and store it in the table of AutoText. Use it in any other document.

11 Tables and Mail Merge

In the earlier chapters, you have studied the features of word processor, creating, deleting, editing and formatting documents as per your requirement. In this chapter we will discuss very important and highly required part of a document that is tables. Tables are very useful to handle vast amount of information. Many times Tables can be used as an option to spreadsheets. A table, designed properly can help observers to understand better what you are saying. We can insert pictures or graphs or any such objects in addition to text and numbers in a cell of a table. We shall learn; creation of tables, modifications in them and formatting of tables. The chapter also explains how to use the facility of mail merge and at the end discusses how to print documents.

Creating Tables

Suppose you want to draw a table on a paper or in our notebook, you have to decide the required number of columns and rows before drawing it. Every parameter can be changed at a later stage; but with the planning of requirement of rows and columns, we can save time.

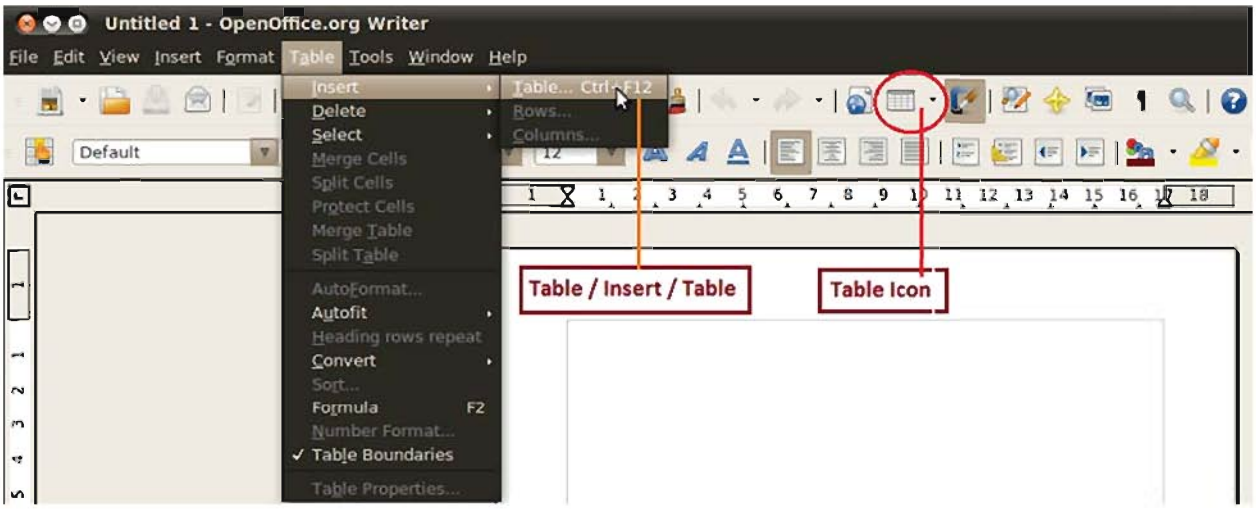

Figure 11.1 : Selecting Table Option

Inserting a New Table

There are three different ways to insert a table in a document; using menu, using icon and using keyboard. You can choose Table → Insert → Table from the menu (see figure 11.1). The same can be done simply by pressing CTRL + F12 keys. If you want to use icon, you have to click Table icon from standard toolbar as shown in figure 11.1. You should note that the cursor should be at the position where you want to insert a table in the document. In any case an 'Insert Table' dialog box will appear first. Figure 11.2 shows a table dialog box that you can use to set the properties of the table that is to be inserted.

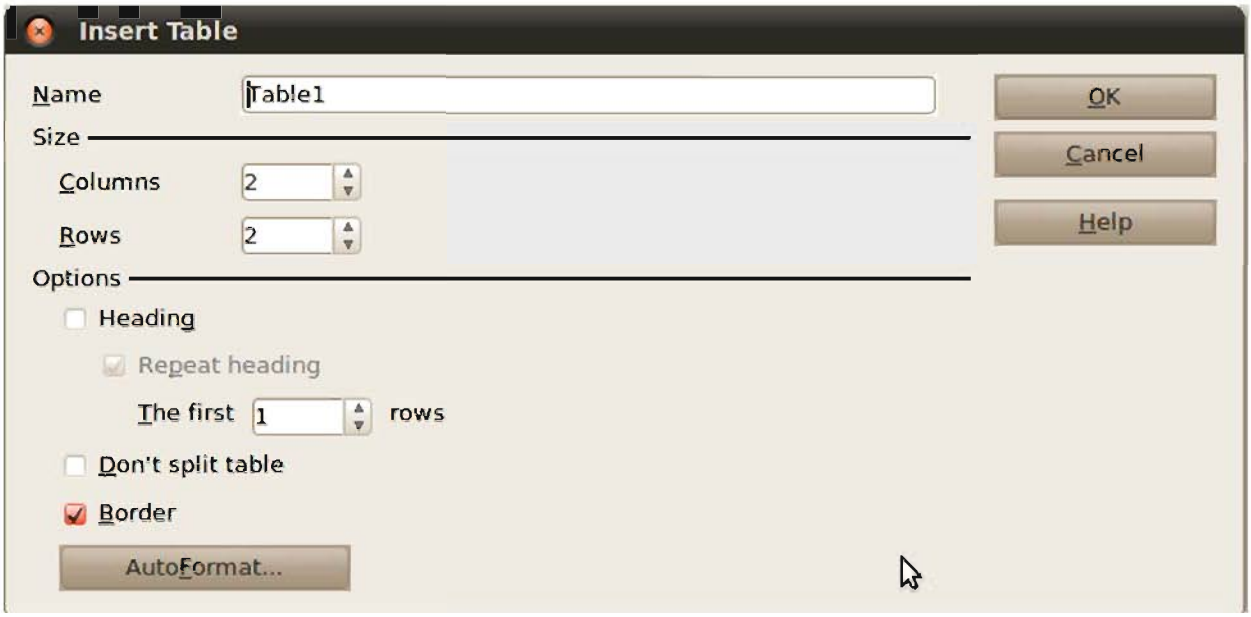

Figure 11.2 : Insert Table Dialog Box

Let us now discuss the options seen in the table dialog box one by one :

- **Name :** Here you can enter a name of the table. Table1 is a default table name. You can modify the table name as per your needs.
- **Size :** The required number of rows and columns can be set here. The size of the table, once set, can be changed later, if needed. The default Table size is 2 columns and 2 rows.
- **Heading :** One or more rows can be specified as a heading of the table. The desired number of rows can be specified in 'The first .... rows'. The default value is 1. The advantage of defining the row(s) as head row(s) is; when splitting a table into two tables, the Heading row(s) are copied in the second table automatically (see figure 11.3).
- **Repeat Heading :** This option is little different from the 'Heading'. If you check 'Repeat Heading' then the heading row(s) will be repeated on subsequent pages if the table spreads across more than one page. If you do not want the heading to be repeated on subsequent pages, uncheck this option.
- **Don't Split Table :** If you check this option, the Writer will not allow your table to be spread across more than one page. In case when the table starts near the end of a page, Writer will locate the complete table on the following page. If the table becomes longer than it would fit on one page, you need to either deselect this option or manually split the table.
- **Border :** On selection of this option, Writer surrounds each cell of the table with a border. The border can be changed or can be deleted later.

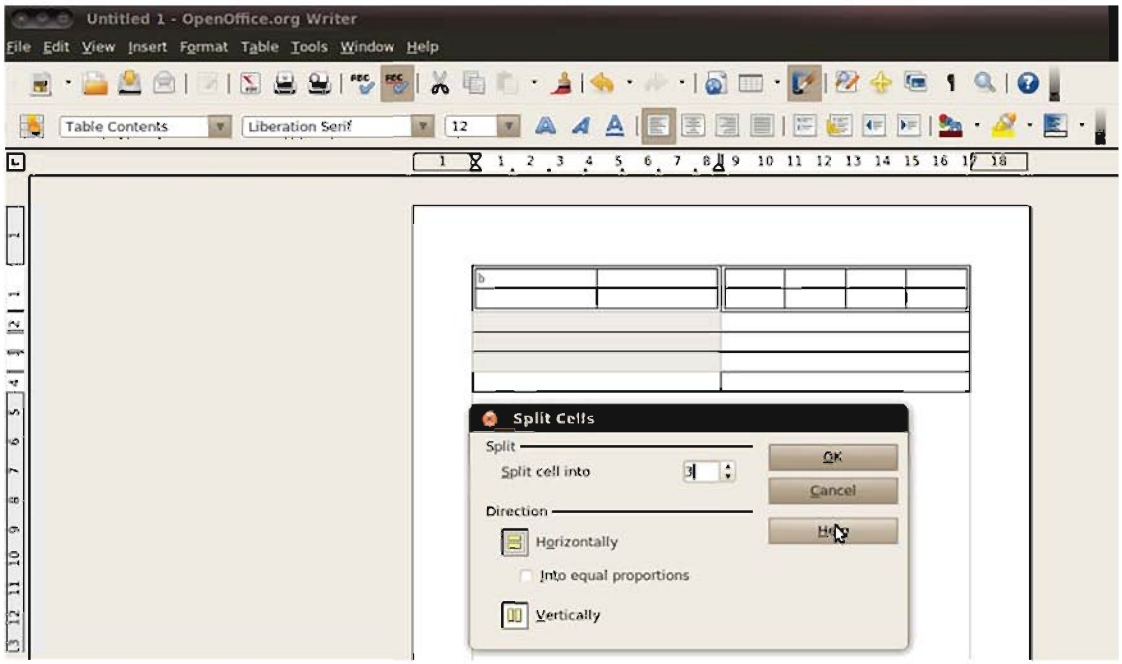

Figure 11.3 : Splitting of Cells

- **Auto Format of a Table :** If the AutoFormat button is clicked, an AutoFormat dialog box will open. Several predefined options for table layouts with different colour and style are available for your choice. Choose the one you like and click OK. Writer creates a table as wide as the text area. You can then adjust the columns and rows as per your needs.

Creating Nested Tables

By nested tables we mean tables within tables. You can create tables within tables, nested to a depth limited to 10 levels. Figure 11.4 shows an example of nested table. To create a table within a table, simply click in a cell of an existing table and use any of the methods mentioned previously for inserting a new table.

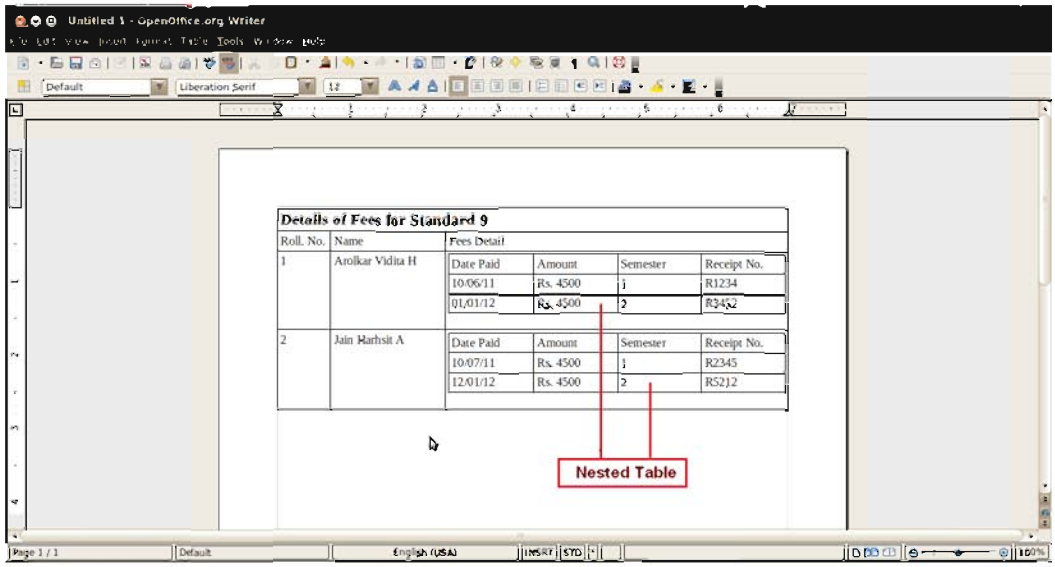

Figure 11.4 : Nesting of Tables

Moving Between Cells

Within a table, you can use the mouse, the cursor keys, or the Tab key to move across cells. The cursor moves to the next cell only if there is no text in the way. The Tab key moves directly to the next cell. If the cursor is in the last cell of the table, a new row is created by pressing Tab key. If the Tab key is pressed with Shift key the cursor moves back a cell.

Formatting the Table

When you are formatting a table, you can divide the formatting process into two parts; formatting the table itself, we call it as formatting of table layout or Formatting of the table text, as we are formatting paragraph.

Formatting of the table layout includes adjusting the size of the table and its position in the document, inserting or deleting rows or columns, merging and splitting cells, changing borders and background. The steps to perform these tasks are explained in next section. Formatting of Table text, on the other hand, affects individual cell or group of cells (if selected together). You can format the table text as you are formatting other paragraphs. You can define your own paragraph and character styles. Alignment, line spacing, bullets and numbering can also be set when needed. You can format each cell independently of other cells, or you can simultaneously format a group of cells by selecting them before applying the desired format.

Adjusting Size of a Table

Using the default settings, any newly created table will occupy the entire width of the text area. This is sometimes what you want or you may prefer a smaller table. To quickly resize a table, first move the mouse to either the left edge of first column or right edge of the last column. When the cursor changes shape into a double arrow, drag the border to the new position. This operation changes only the size of the first or last column; it does not change the alignment of the table on the page.

More accurate formatting over the size and position of the table can be done through Table Format Dialog box. The Table Format dialog box is opened by choosing Table → Table Properties or by right-clicking anywhere in the table and choosing Table from the pop-up menu.

Figure 11.5 shows the table format dialog box, you can set the alignment of the table like Automatic, Left, Right and Center. The left option is used with spacing; it allows you to place your table exactly how far it is from the Left margin. Manual option lets you to place your table from both left and right margins. These margins can be set in Spacing. The Above and Below options are used to set the distance of the table from the text above and below the table.

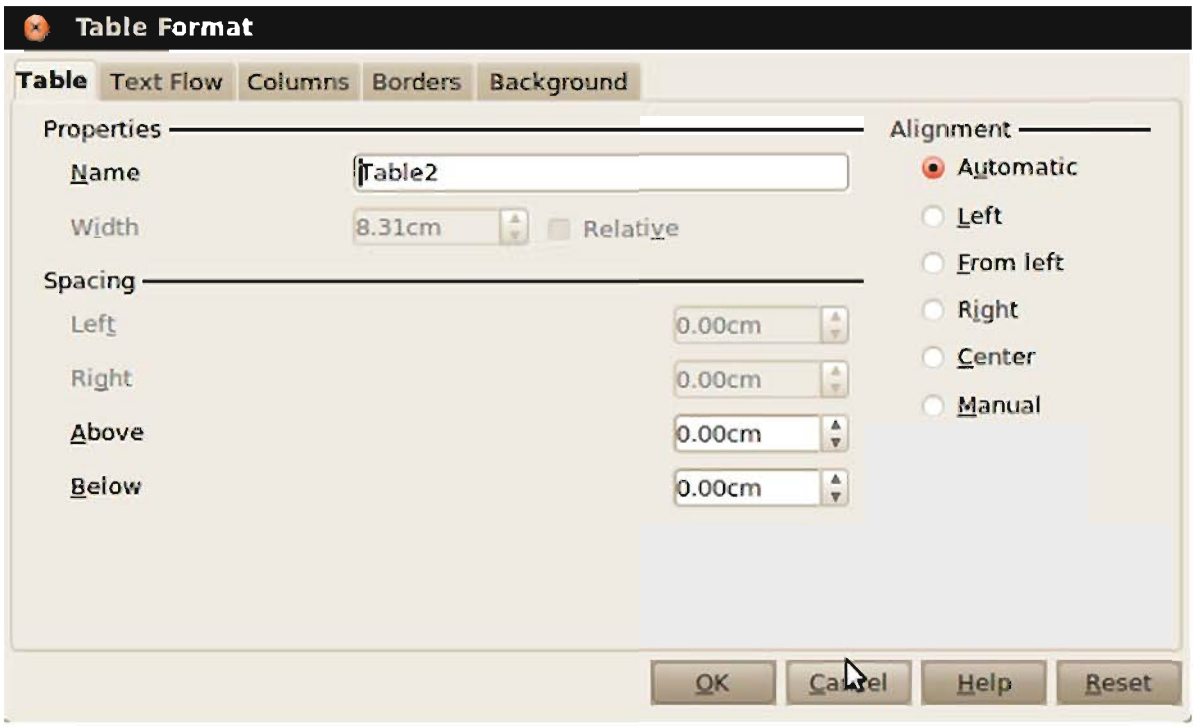

Figure 11.5 : Table Format – Table Properties

Resizing Rows and Columns

You can adjust the Row height and Column width in a table in many different ways.

Move the cursor to the edge of the cell (vertical for column width and horizontal for row height) and when a double sided ⊣⊢ arrow appears, click and hold the left mouse button, drag the border to the desired position and release the mouse button. Both row height and column width are adjusted in this way.

- Other way to adjust the row height and column width is using vertical ruler and horizontal ruler respectively. On the vertical ruler there are row dividers and similarly on the horizontal ruler there are column dividers marked by a pair of thin grey lines. You can change the row height or column width by holding the mouse button down on the appropriate divider and dragging it to the desired location.
- From the Table menu, by selecting Autofit option, you can choose row height or column width which allows you to change the size of a row or a column. (see figure 11.6)

Figure 11.6 : Table Autofit

- The other option Optimal Row Height or Optimal Column Width make the selected rows or columns as narrow as possible to fit their contents.
- If you select distribute rows evenly or distribute columns evenly, the height of selected rows or width of selected columns will be same.

The column width can also be set by selecting column option in the Table Format dialog box as shown in figure 11.7.

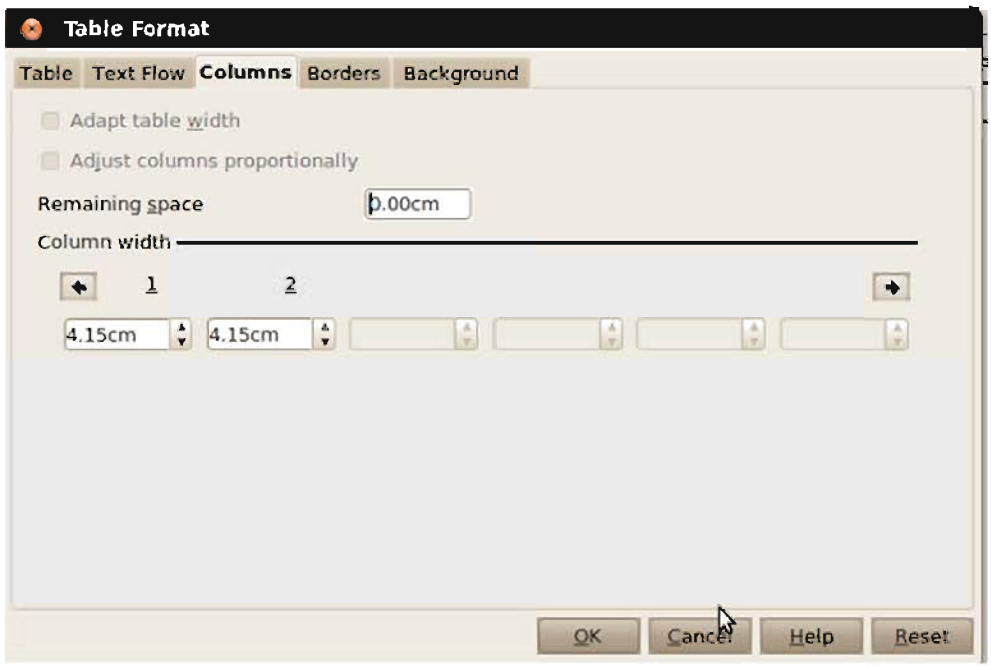

Figure 11.7 : Table Format – Column Option

Inserting Rows and Columns

Rows and Columns can be inserted in many ways, as mentioned :

(1) **Using Mouse :** Place the cursor in the row or column where you want to add new rows or columns and right-click. Select the desired option.

(2) Using Menu : Choose Table menu, then choose Insert and then row or Column. An Insert dialog box will be displayed as shown in figure 11.8. Here you can type the number of rows or columns to be inserted or using arrow you can set the number. After giving the number of rows or columns to be inserted, select Above or Below (or Before or After in case of rows) Click OK to get the effect of the action.

(3) Using Toolbar : When your cursor is anywhere in the table, the Table toolbar is viewed on the screen as shown in figure 11.9. Here you can click on insert row or column icon. A row or a column will be inserted below the current row and after the current column.

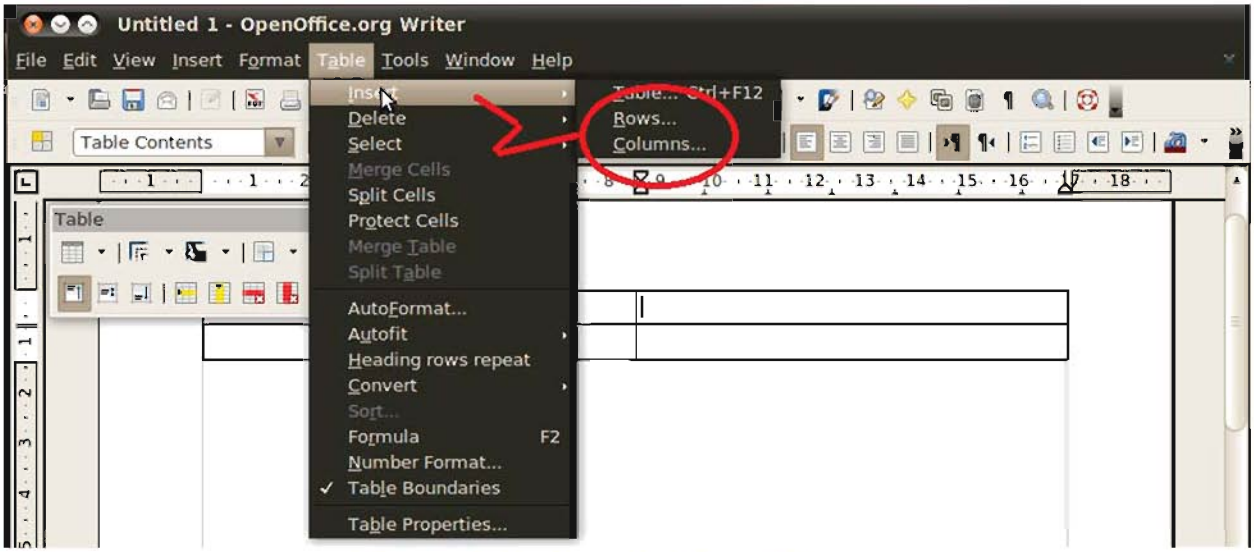

Figure 11.8 : Inserting Rows/Columns

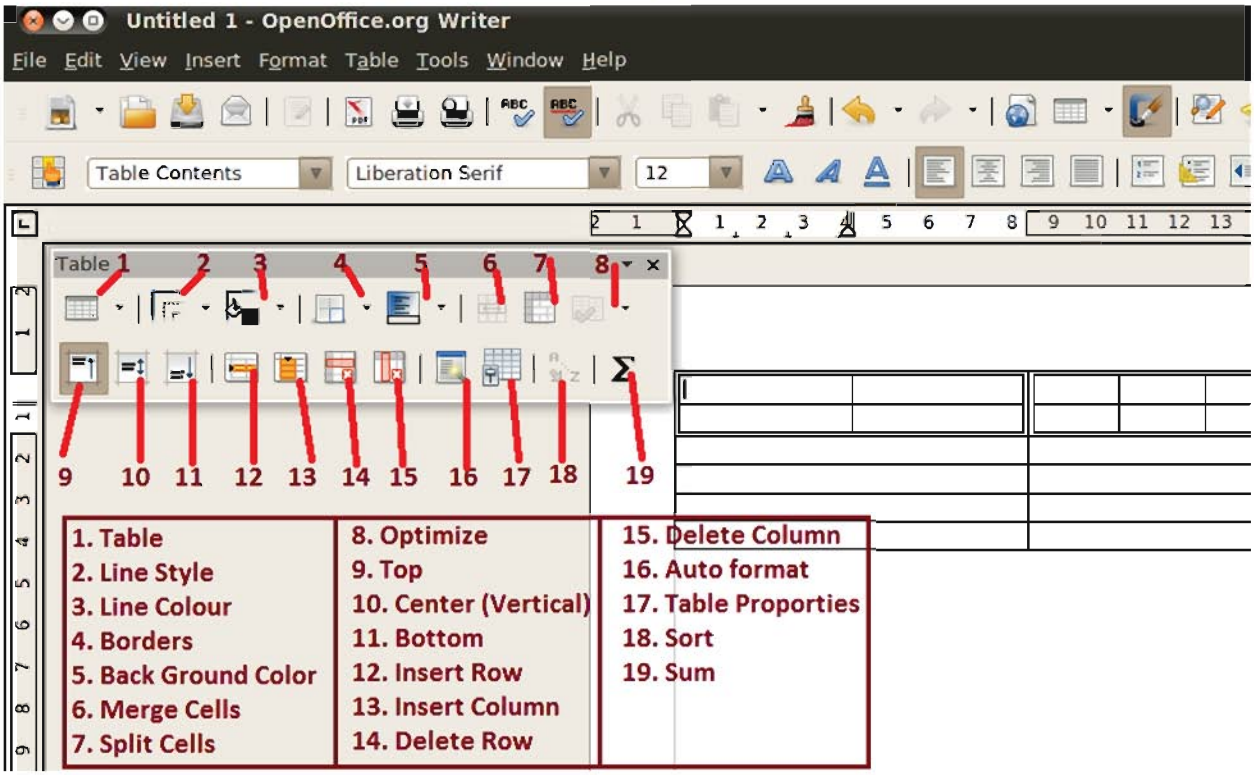

Figure 11.9 : Table Toolbar

To insert quickly a row or a column using only the keyboard, follow the steps given below :

- Place the cursor in the row or column where you want to insert it.
- Press ALT + Insert to activate keyboard handling.
- Press the arrow keys as per your requirement to insert a row or column :
  - Left arrow will be pressed to insert a column to the left of the current column.
  - Right arrow will be pressed to insert a column to the right of the current column.
  - Down arrow will be pressed to insert a row below the current row.
  - Up arrow will be pressed to insert a row above the current row.

Note that by using ALT + Delete instead of ALT + Insert, in above steps, we can delete row or column.

Merging and Splitting Cells

The selected cells can be merged into one cell through the steps given :

(1) Select the cells to be merged.

(2) Right Click and choose Cell → Merge or from menu bar Choose Table → Merge cells.

A cell or some selected cells can be split into multiple cells. To split cell(s) follow the steps given :

(1) Position the cursor inside the cell. (or select the cells to split)

(2) Right click and choose Cell → Split or from menu bar choose Table → Split Cells.

A Split Cells dialog box will be displayed as shown in figure 11.10. Type the number in Split cell into textbox. Then select Horizontally or Vertically. The cell will be split either into specified number of rows (if Horizontally is selected) or into specified number of columns (if Vertically is selected).

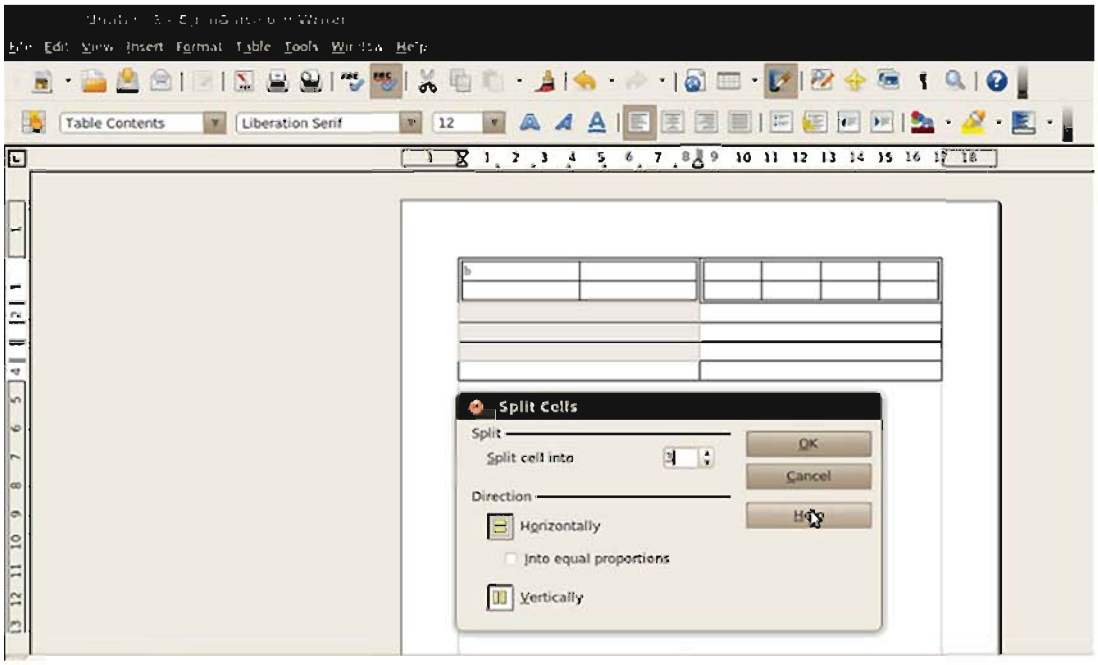

Figure 11.10 : Splitting of Cells

Vertical Alignment of Text in a Table

By default, text entered into a table is aligned to the top-left of the cell. You can change the default for the entire table or for individually selected cells.

To vertically align the text place the cursor in the cell or select multiple cells you wish to change. Right-click keeping cursor anywhere in the selected area and choose Cell. Choose Center, Top, or Bottom as per your desire.

Automatic Formatting of Tables

Using AutoFormat, you can apply a format from the predefined collection of table formats. You can also create your own table formats and save them as another AutoFormat in the collection set. To apply an AutoFormat, place the cursor anywhere in the table and choose Table → AutoFormat. An AutoFormat dialog box will appear as shown in figure 11.11. Select the desired format from the list displayed on the left (you can see the actual look of the table as you move in the list) and click OK to apply it.

Figure 11.11 : Table Auto Format

Deleting a Table

To delete a table, you can click anywhere in the table and choose Delete → Table from Table menu. Other way is similar to the one we use for deleting selected text. That is, start from the line above the table, drag the mouse till the line below the table to select the table and then simply press either Del key or Backspace key.

Copying a Table

Copying a table is as simple as copying a selected text. That is, we select the table to be copied first (By taking a cursor anywhere in the table and choose Table → Select → Table). Press CTRL + C or select copy option from the Edit menu or select the copy icon from the standard toolbar or select copy option after Right-click. Then take the cursor to the position where you want its copy and then select paste either using menu or icon or by pressing CTRL + V. Moving a table is similar to copying a table except selecting cut instead of selecting copy. Other procedure is similar.

Mail Merge

Often you need to send the same information to several persons. For example, you want to send a letter to several candidates to be called for interview. Obviously, the address and interview time will be different for different candidates at the same time the other content will be same. One way is, to create a letter in usual way, copy this letter in a new document, change the address and interview time of a particular candidate and save the document with different name. The procedure of copying and changing is repeated as many times as the number of candidates. This way of creating multiple documents is very time consuming and tedious. Writer has made this task easy through the feature called mail merge. In mail merge two documents are created. One which is the main document also called the form letter and other is called the data source. The form letter contains the actual information and variable names for the data which varies in different letters. Data source contains values of the corresponding variables of the main document. For the example mentioned above, the address of all the candidates with respective interview time would be stored in data source.

Creating the Data Source

A data source is a set of mailing addresses in the form of a rows and columns generally called database (Detailed study of database will be done in standard tenth). The content of the database is in the form of data records. OOo's Writer supports the database in many forms. They are spreadsheets, text files and databases such as MySQL, Adabas, and ODBC.

If the information to be used in the mail merge is currently in a format that OOo cannot access directly, you need to convert it, to a comma-separated values by exporting it. The extension of such files must be **.csv**. To create address book using spreadsheet or database is little easier, as they use the table format to store the data. We will make use of text files, as other formats are yet to be studied. The text file is saved with file extension **.txt**. It is also possible to create address book during the mail-merge process using mail merge wizard. Note that the comma separated file is also a text file but the only difference is that the comma separated file will be converted into the table format after registering it with form letter or main document.

Creating a Text File for the Data Source

Any editor can be used to create a text file. We will use **gedit** text editor available with our operating system. To open the **gedit** text editor, click on Applications → Accessories → gedit Text Editor (See figure 11.12).

Figure 11.12 : Opening the Gedit Text Editor

Once you have opened the editor type the content of first line. The first line generally should represent the title of each column. While typing the title fields should be separated by a comma. Do not put comma at the end of last title. Here you need to press ENTER key. The next line will contain the values corresponding to the titles entered by you. The values again should be separated by a comma. We call this as first record. There should always be one to one mapping between the number of titles and the number of values. Similarly additional records can be entered in next lines. Figure 11.13 shows the sample data set. Save the file giving appropriate name and give **.txt** as extension.

Note that the comma separated file is created exactly the same way; the only difference is in the extension of the file. The file in figure 11.13 is named **address.txt**. Once the text file is created it should be registered first with the main document. The procedure for registering a data source is explained below :

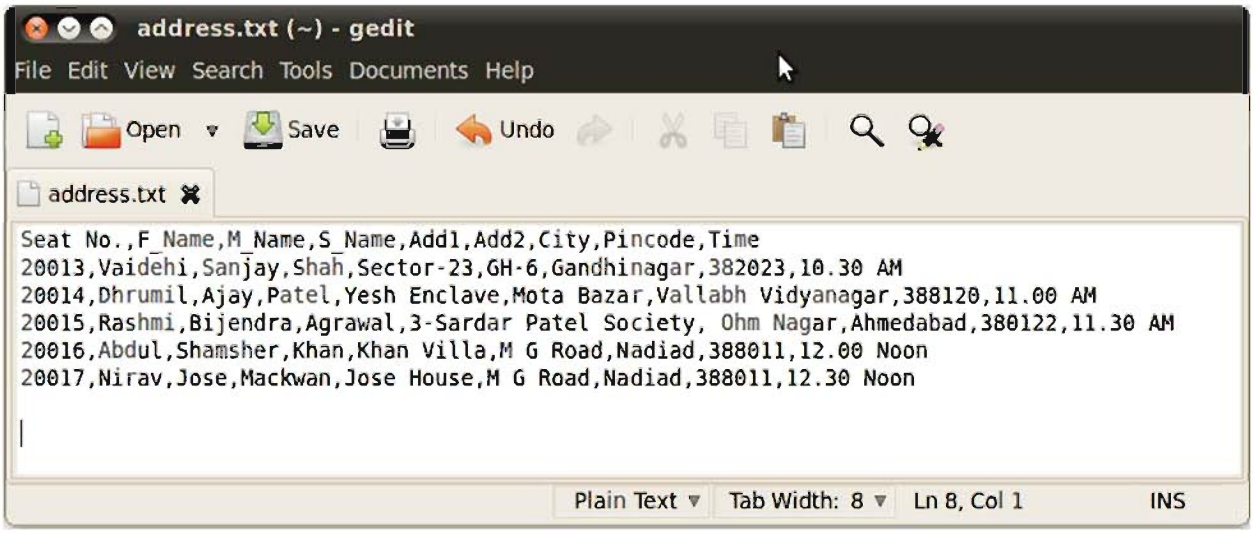

Figure 11.13 : Database for Mail Merge

Registering a Data Source

For a data source to be directly accessible within a Writer document, it must first be registered. This process is to be done only once; after that, the data source is available to all documents in OpenOffice.org. The step-by-step procedure for registering the data source is explained below :

(1) From Writer, choose File → Wizards → Address Data Source.

(2) The option in the first step of the wizard depends on the operating system loaded on the computer. Select the appropriate type of external address book. If the type of data source is not present in the list, select Other external data source because we have considered a text file to explain the procedure. Click Next. (See figure 11.14).

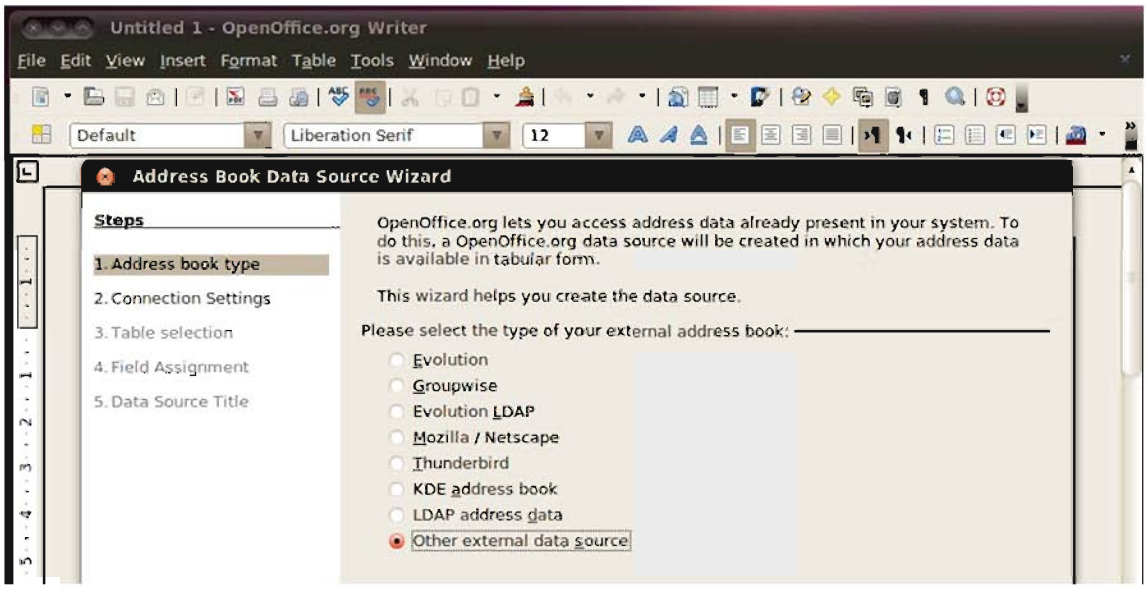

Figure 11.14 : Selecting Data Source

(3) In the next step of wizard select the Settings button. (See figure 11.15).

Figure 11.15 : Data Source Connection Setting

(4) In the Data Source Properties page, select the Database type. In our example, it is Text. Click Next. (See figure 11.16).

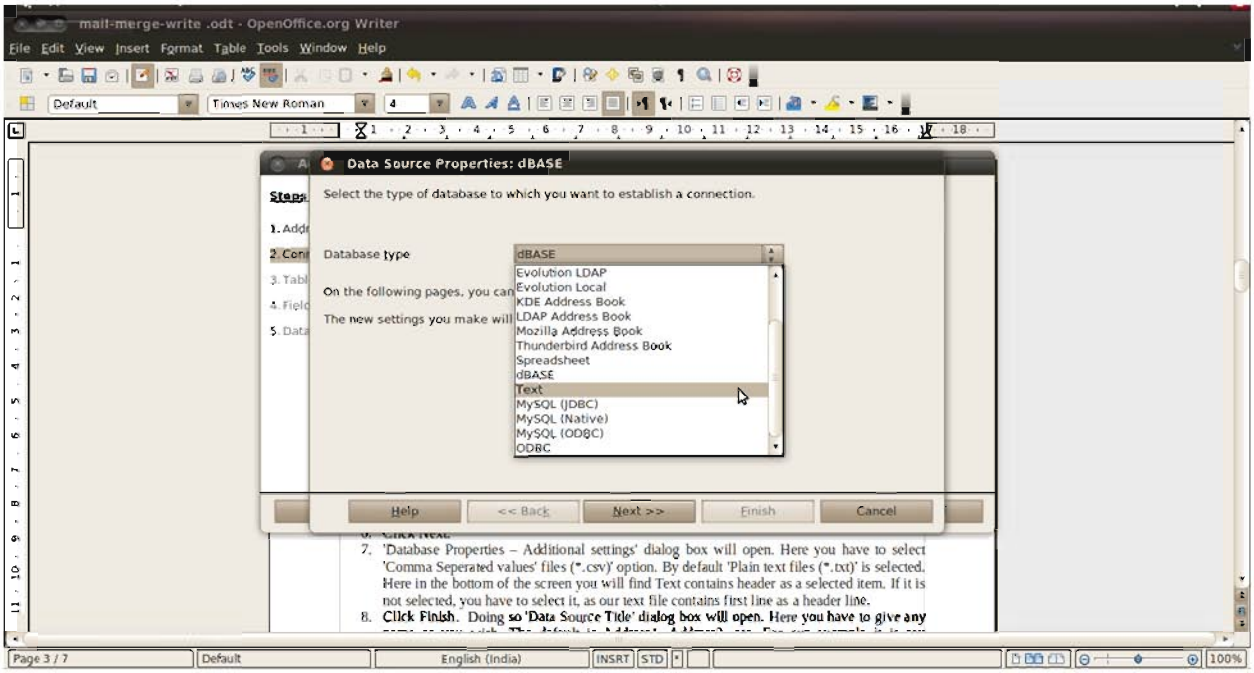

Figure 11.16 : Data Source Properties

(5) In the next dialog box, you have to give the location where your text file is stored. If you know the exact path of text file, type it in the box otherwise click the Browse button and navigate to the directory that contains your file (See figure 11.17). Here choose Select option to return to the Database Properties - Connection settings dialog box. The Test Connection button will now be enabled and we would be able to check whether the connection has been correctly established or not.

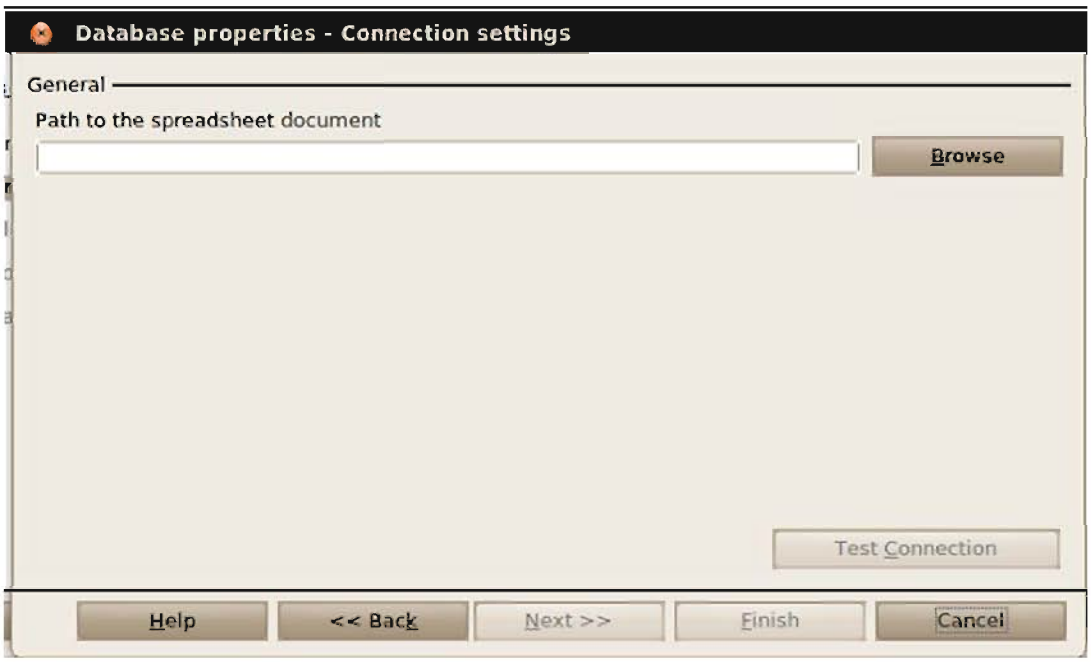

Figure 11.17 : Database Connection Settings

(6) Click Next.

(7) Database Properties – Additional settings dialog box will now be opened. Here you have to select appropriate file type option that is text file option or 'Comma Separated values' files (*.csv)' option. By default 'Plain text files (*.txt)' is selected. Observe that at the bottom of the screen you have check box with label **Text contains headers**. This check box should be enabled. If it is not enabled then you will have to enable it, as our text file contains first line as a header line. (See figure 11.18)

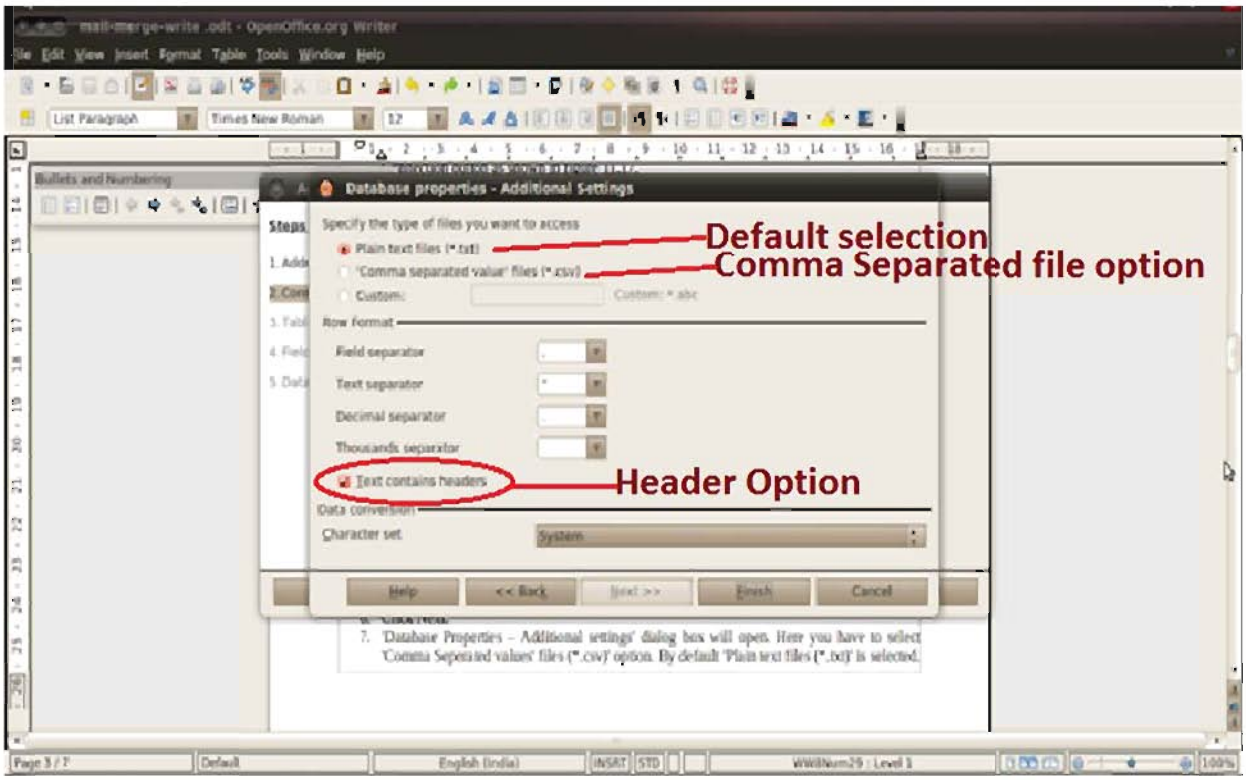

Figure 11.18 : Database Properties : Additional Settings

(8) Click Finish. Doing so 'Data Source Title' dialog box will open. Here you have to give any name of your choice. The default name is Addresses.odb. Click finish.

(9) The data source is now registered.

Creating a Form Letter

Let us recall our example: we want to send a letter to several candidates to be called for interview. We can create the main document in usual way as we are creating a normal document :

(1) Create a new text document: File → New → Text Document, or open any document from already saved (form letter) with File → Open.

(2) Display the registered data sources: View → Data sources (or press F4).

(3) Find the data source that you wish to use for the form letter, You will find the address selected because you have registered your data file with this name. The address data file will be displayed as shown in figure 11.19.

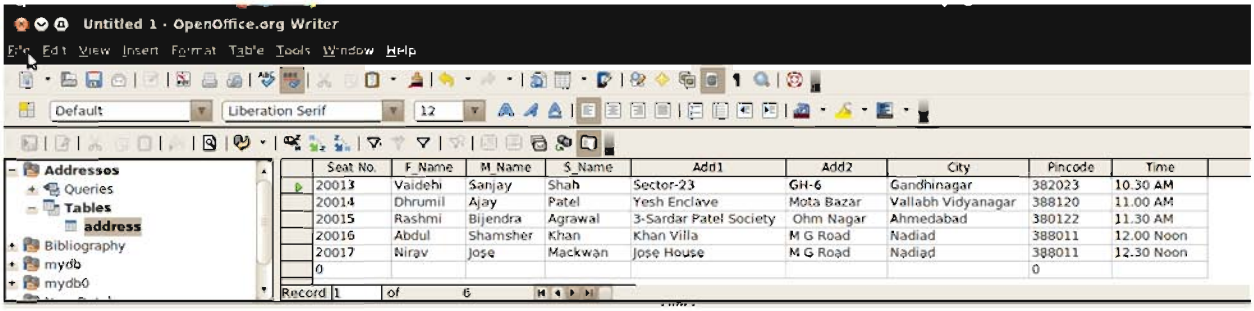

Figure 11.19 : Opening Database

Now create or modify the form letter by typing in the text, punctuation, line breaks, and so on that will be present in all of the letters. To add the mail-merge fields at appropriate places (such as names, addresses, interview time etc.), click in the field heading and drag it to the appropriate position in the letter as shown in figure 11.20. Continue until you have composed the entire document. (See figure 11.21)

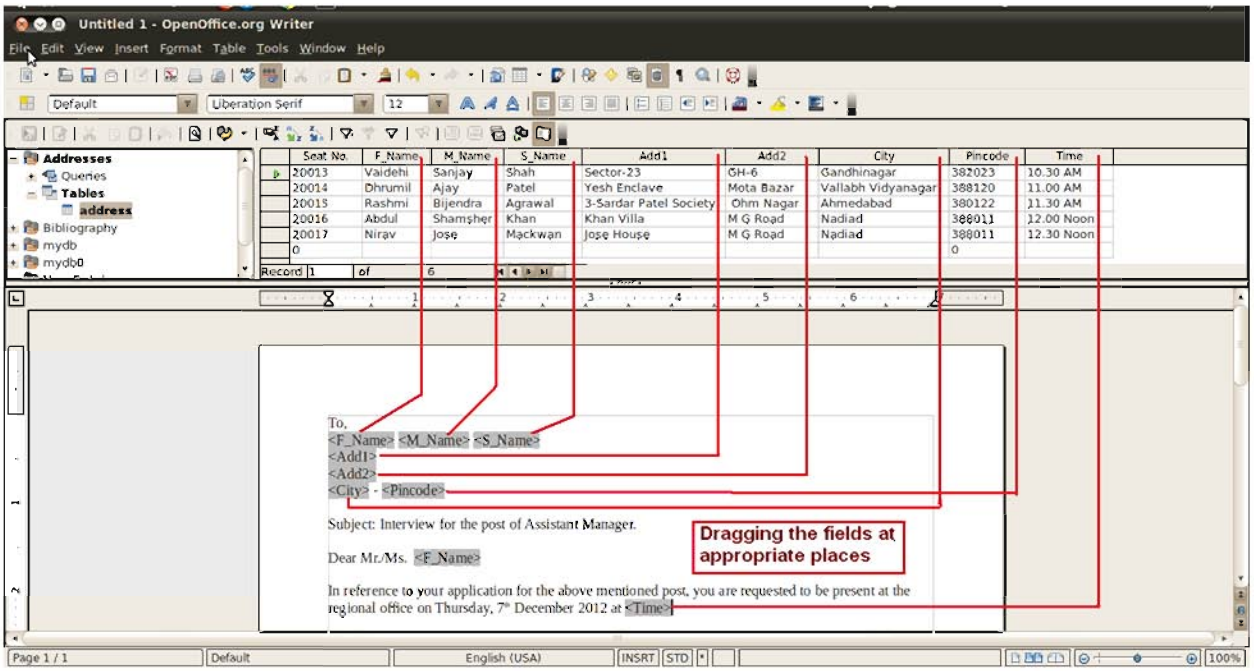

Figure 11.20 : Dragging Fields in the Form Letter

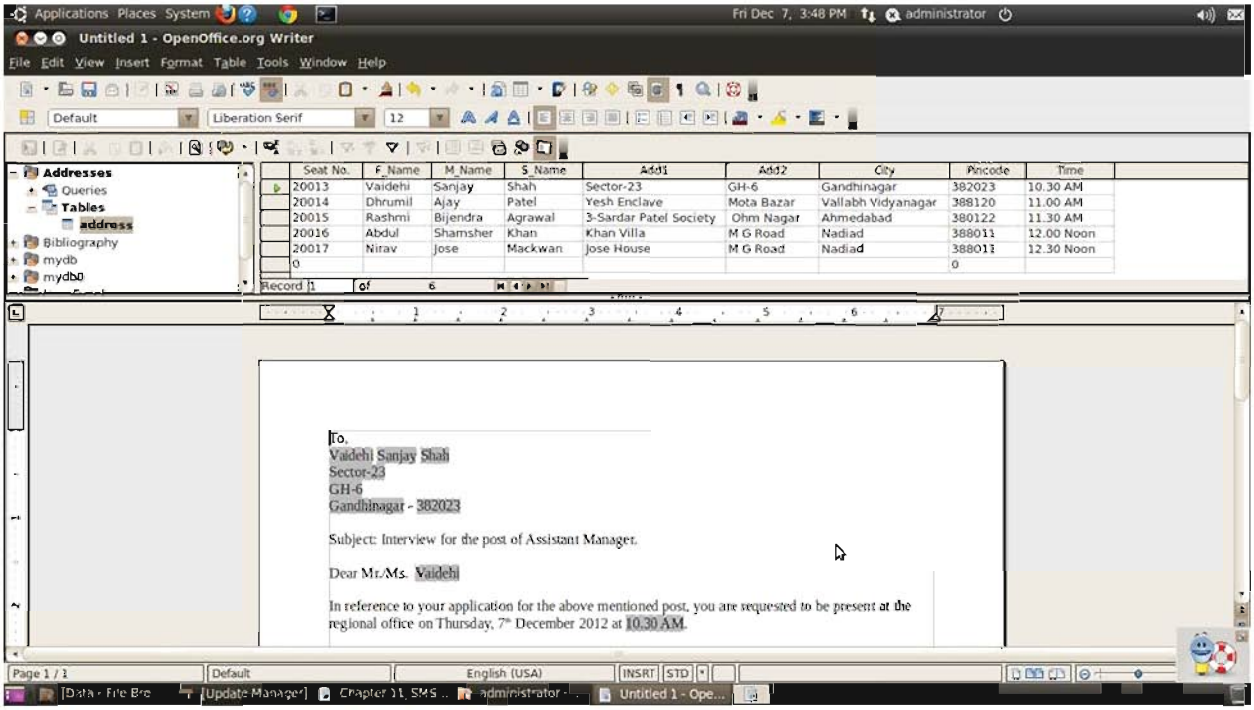

Figure 11.21 : Document after Mail Merge Process

The document is now ready to be merged.

(1) Choose File → Print and click on Yes button as seen in the message box. (See figure 11.22)

Figure 11.22 : Printing of Form Letter

(2) Doing so the Mail Merge dialog box shown in figure 11.23 will appear with records of database displayed. You can choose all the records or choose some as per your choice. To select individual records to be included in merging, every time while selecting a record, hold down the CTRL key and click a record to be selected. If the records to be selected are consecutive, select the first record in the range and scroll up to the last record and press Shift + click on the last record. Press OK. You can either print the merged file directly or save it in a file for printing it later or even for further modification. If you are storing the merged document as a file, you can store it as a single file or individual files. For printing the resulting document, you have to select the printer in the output section of the Mail Merge dialog box (See figure 11.23).

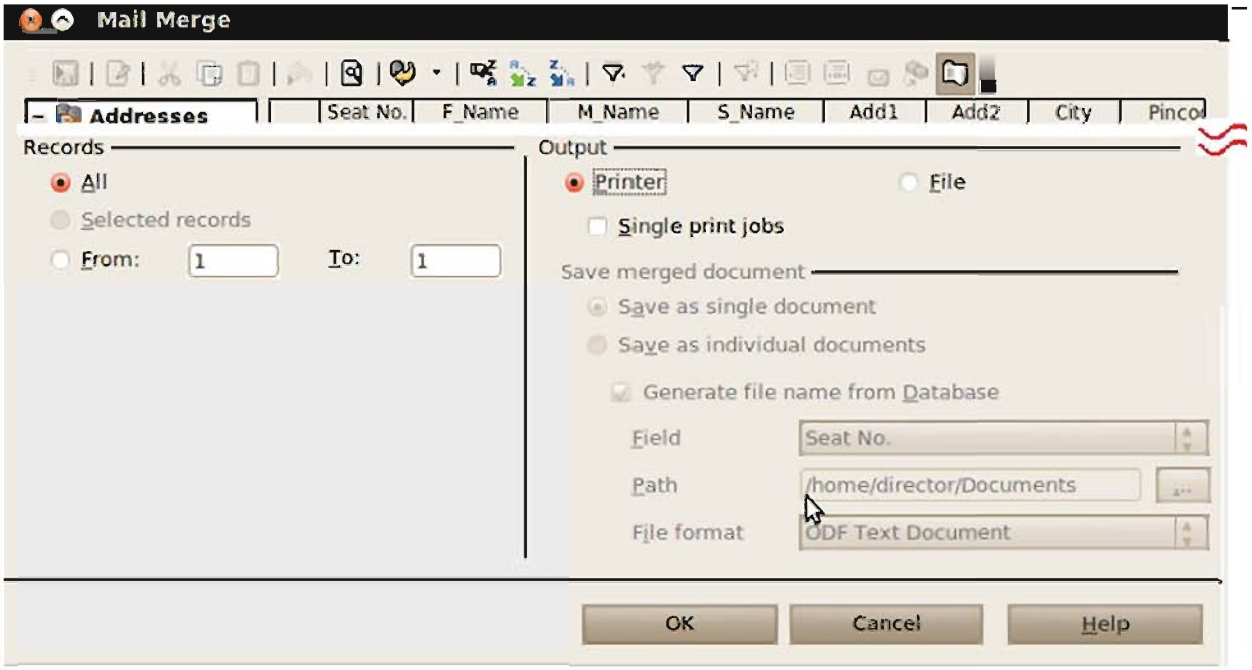

Figure 11.23 : Mail Merge Dialog Box for Printing

Select File in the output section to redirect the resulting document to file. Doing so, the next Mail Merge dialog box will be displayed as shown in figure 11.24.

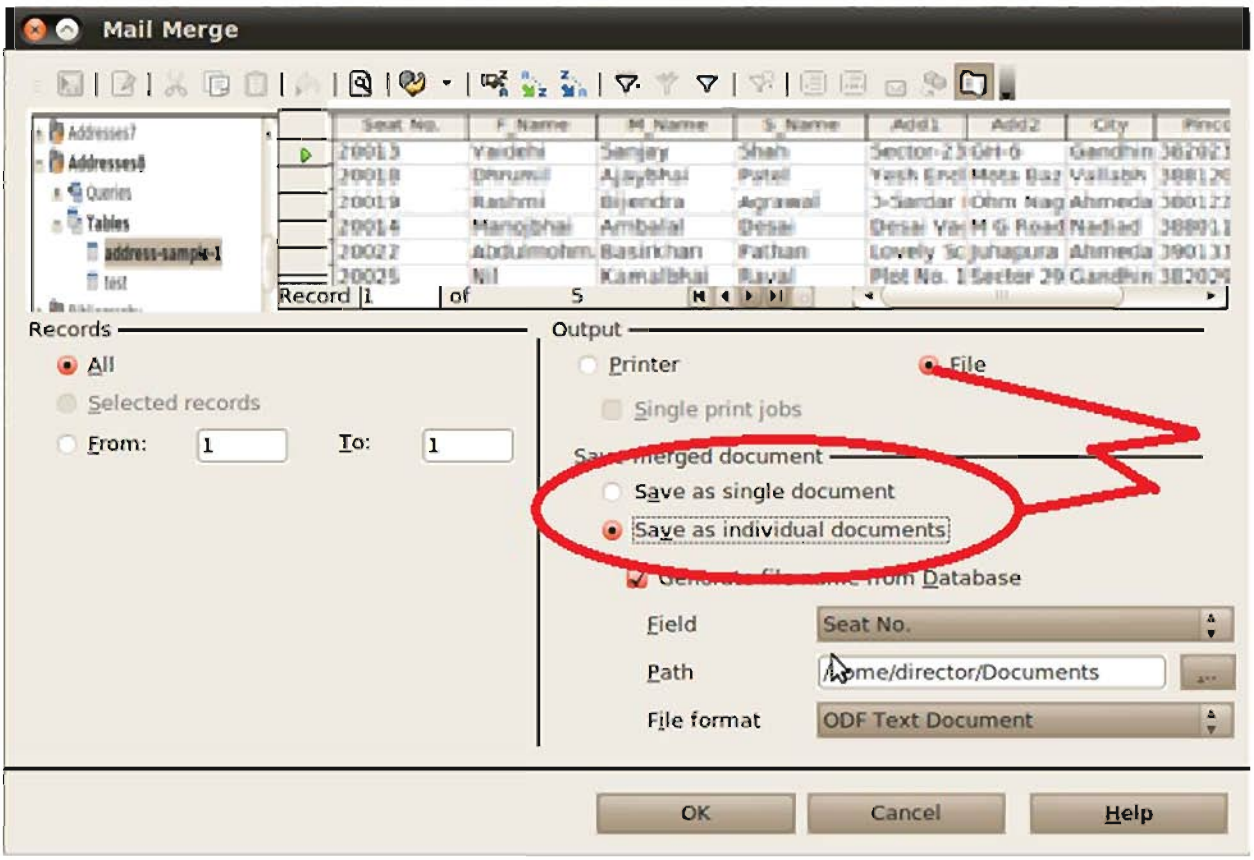

Figure 11.24 : File is selected for Results

Here in Save merged document section you can choose Save as single document to get result in single file or you can choose save as individual document to store each letter as separate file. Default is Save as single document. The file so created can be edited, as we are editing other documents.

(3) If you have not saved the original form letter (template) previously, then you have to save it now.

Quick Printing

Generally documents are stored for the purpose of maintaining records. To print the document quickly click the Print File Directly icon  to send the entire document to the default printer defined for your computer.

Controlling Printing

When you select print option from File menu or by pressing CTRL + P, Print dialog box will be displayed as shown in figure 11.25. You will find several options here, for having more control over printing.

The Print dialog box has five parts, from which you can choose options as per your requirement. They are Printer, Properties, Print Range, Copies and Options. We shall discuss all these options one by one. Note that the options selected on the print dialog box will be applied to the printing of current document only.

Printer

If you click on a small triangle (▼), a list of names of printers (only those which are installed on your computer) will appear in line with the Name. You can select the printer on which you want

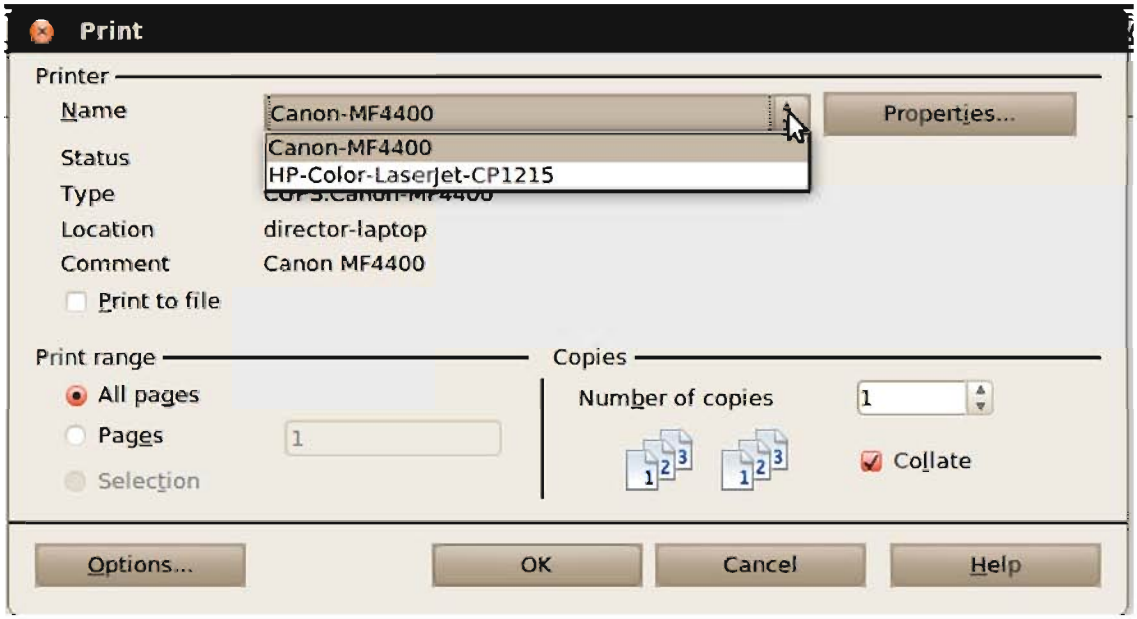

Figure 11.25 : Printer List

to print your document. By clicking the desired printer, the name of that printer will be displayed in the Window of Name option as can be seen in figure 11.25. The printing of your document starts after pressing OK. If you want to convert your document into PDF format, you can select Adobe PDF option from the list of printers. In this case, you can give a file name and the place where you want to save it. Press OK.

Note :

The view of figure 11.25 may differ in your organization due to different printer configurations.

Properties

When we select Properties, the Property dialog box will appear and this dialog box varies depending on the printer. There are five options to set. They are Layout, Paper, Graphics, Extra and About. If you select Layout, you can choose potrait or landscape orientation. By clicking on the Paper we can set the number of copies, paper size and paper type that is whether the paper is thin or thick or printer default. Darkness (Normal, Light, Dark) or Resolution can be set by selecting Graphics option.

Print Range

If you want to print, all the pages or some selected pages, here is the place where you can set your requirement. By default, All the pages is the selected option. Pages option is selected, if you want to print some selected pages. ' – ' is used to set the range of pages (the pages to be printed are consecutive) and ' , ' is used to separate pages (if pages to be printed are non-consecutive). For example, if you type ' 3, 8-12, 15', then page number 3, 8, 9, 10, 11, 12 and 15 will be printed. If you want to print some selected portion of the document, then select the desired portion to be printed and choose Selection option here.

Copies

The copies option is used if you need more than one copy of the document or page. Here you can select number of copies. If it is more than one, you have Collate option. If it is selected, the whole document (or Selected pages) will be printed and then next copy will be printed. If this option is deselected, the first page will be printed for as many number of times as you have given in number of copies. Then second page will be printed and so on. For example if you have 5 page document and need 3 copies of it to be printed. If the Collate option is selected, All 5 pages will be printed first and then second copy and then third copy. If the Collate option is deselected, then 3 copies of first page will be printed first then 3 copies of second page will be printed and so on.

Previewing Pages Before Printing

The normal page view in Writer shows you what each page will look like when printed. Writer provides mainly two different views; Editable and Read only view. There are three options for viewing the document. They are single page view, double page view and facing page view. The option can be selected on the status bar at the bottom of the writer screen as shown in figure 11.26.

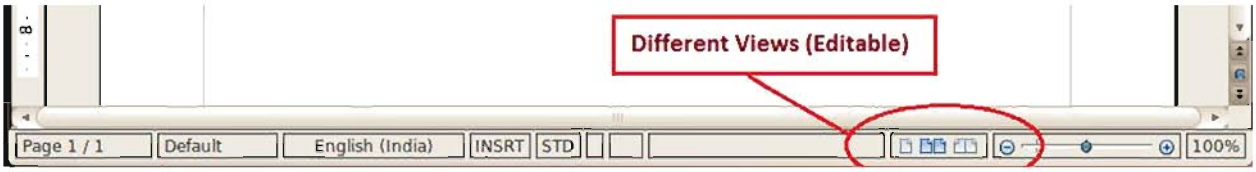

Figure 11.26 : Different Views

The Read-only-view can be selected by choosing File → Page Preview or Click the Page Preview button on the standard toolbar. Writer now displays the Page Preview toolbar instead of the Formatting toolbar as shown in figure 11.27 and the names of the icons of the tool bar is shown in figure 11.28.

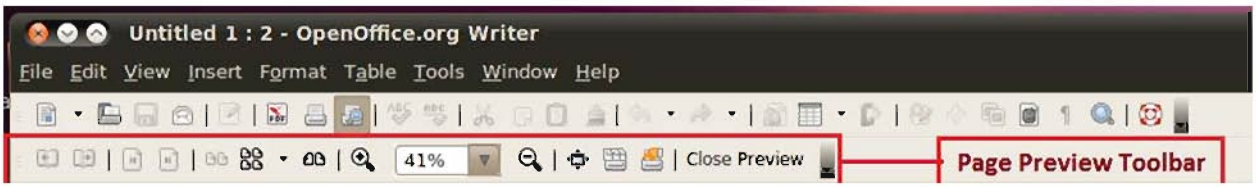

Figure 11.27 : Page Preview Toolbar

Select the required preview icon: Two Pages , Multiple Pages or Book Preview . To print the document from this view, click the Print document icon to open the Print dialog box. Choose the print options and click the Print button. By clicking the Close Preview option you can switch over to editable view.

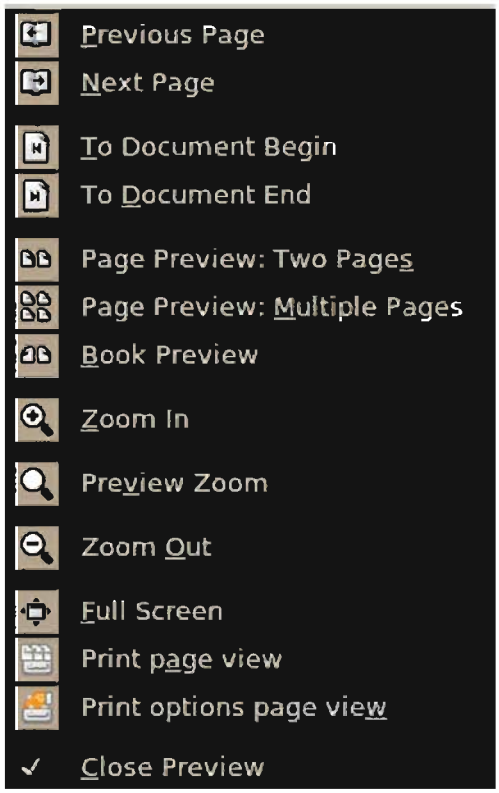

Figure 11.28 : Page Preview Toolbar-Icons' Name

Changing Page Format and Page Margins

To format a page, select Format → Page. A Page Style dialog box will appear as shown in figure 11.29. You can change here Page Type that is Page format. By default the page format is letter. The size of letter format is : Width – 8.50" and Height – 11.00". If you select the format as A4 the the size will be: Width – 8.27" and Height – 11.69". If legal is selected the page size will be: Width – 8.5" and Height – 14". Other such options are: A5, A3, B6, B5, B4, different envelop sizes and others. Apart from the standard formats, you can set your own format called custom format. The custom size can be set by entering the desired Width and Height.

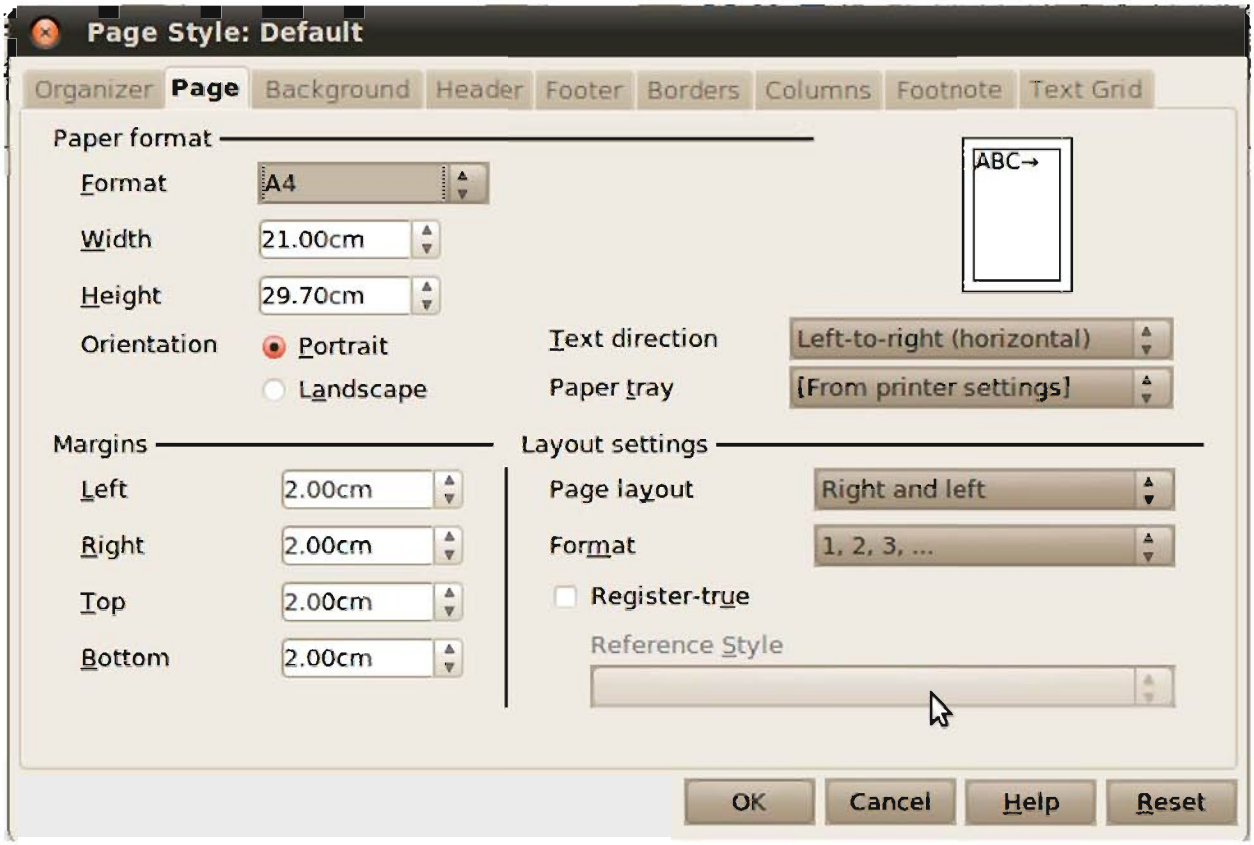

Figure 11.29 : Page Style Dialog Box

If you select landscape option (by default it is Potrait) the Width and Height will be interchanged.

All the four types of margins can be set from Margin section. Normally the margins are set in inches. The left margin is 1" means printing will start 1 inch away from the left edge of the page. Similarly Top, Bottom and Right margins show the distance of printing from top edge, bottom edge and right edge of the paper.

- **Background :** By selecting this option, we can change the background colour. For no background color No Fill option is selected.
- **Header and Footer :** Header and Footer margins can be set by selecting Header and Footer option. Header we mean the text to be printed on each page on the top of the page. Footer,we mean, same as Header except it will be printed on the bottom of each page. Headers and Footers are printed in top and botom margins and so Header margin should be less than top margin and footer margin should be less than bottom margin.
- **Columns :** This option permits us to type in two or three columns. These columns can be set to have equal width or it can be set as per your requirement. The column width for each column seperately can be set and the spaces between columns can also be set as per your need. We can select some pre formatted style also as shown in figure 11.30.

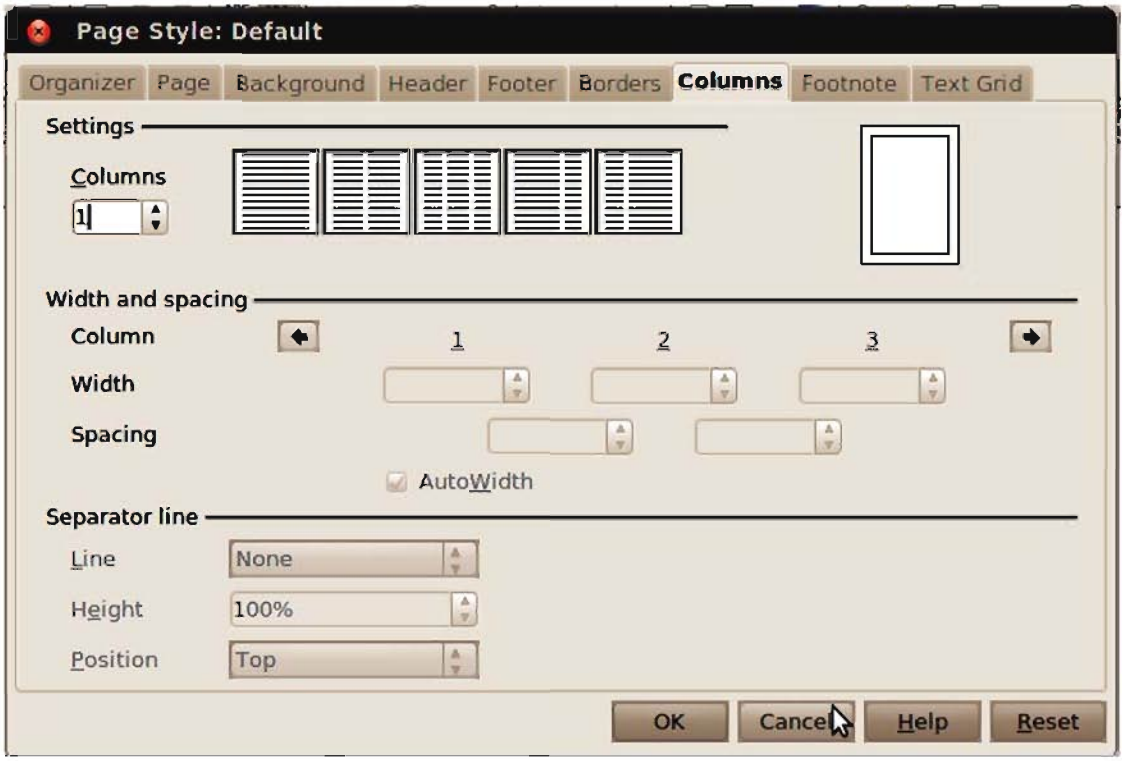

Figure 11.30 : Page Style-Column

Creating Headers and Footers

Choose Insert → Header or Footer (See figure 11.31). Selecting this we get the cursor on the top of the content of the page, where we can type the header text. Similarly if we select Footer, we get the cursor in the area on the bottom of the page just below the actual text of that page. The Default settings are same as we set by the Page Style.

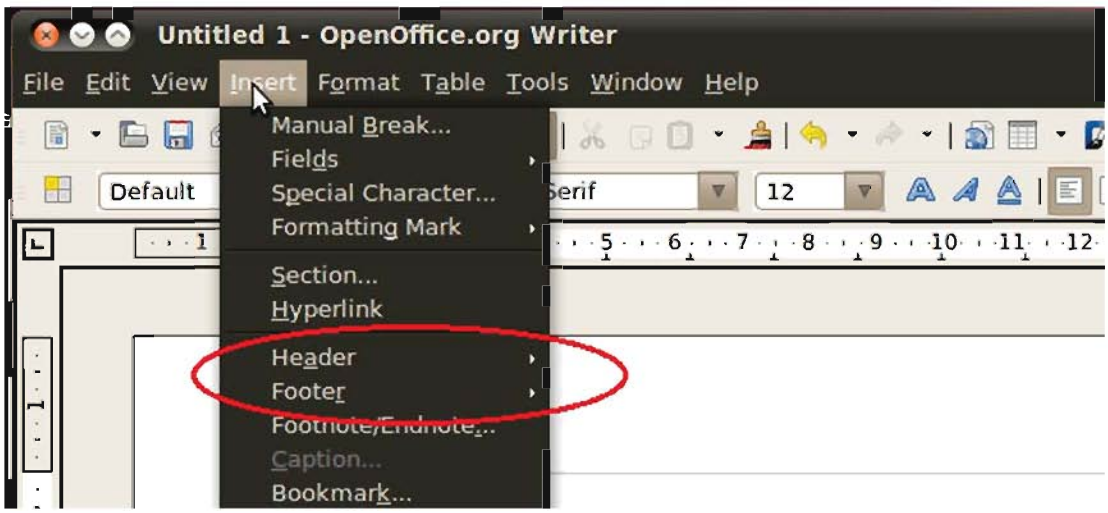

Figure 11.31 : Inserting Header & Footer

Numbering Pages

OpenOffice.org allows us to use fields to manage page numbers. To insert a page number field, position the cursor where you want to insert the number and choose Insert → Fields → Page Number (See figure 11.32).

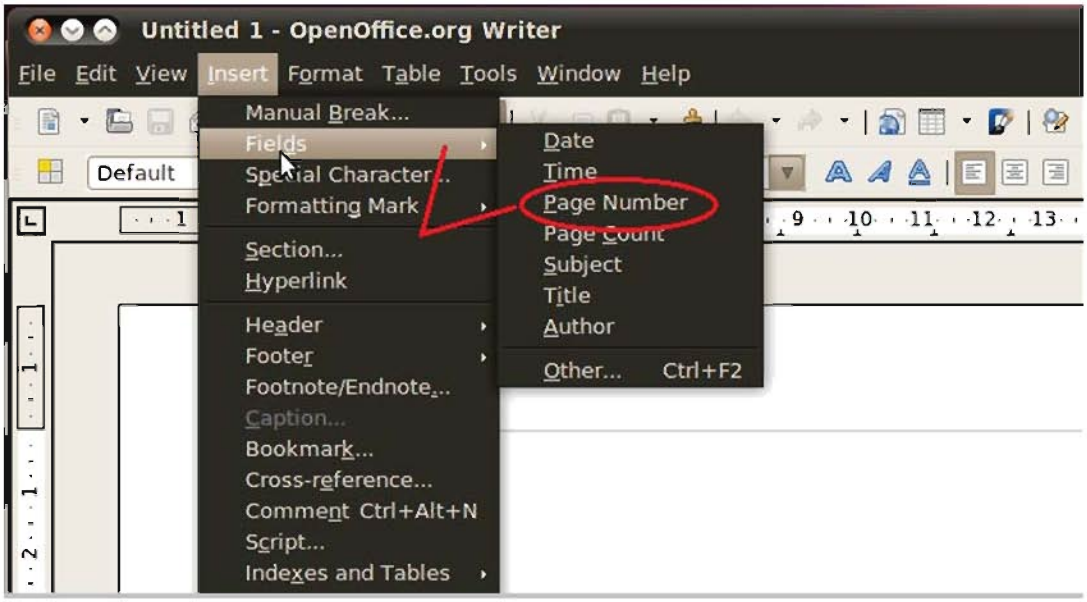

Figure 11.32 : Inserting Page Number

The page number appears with a gray background. The gray background denotes a field and the background will not be printed. The system Date, Time, Page Count, etc. can aslo be printed at desired location same way as Page number.

Footnotes and Endnotes

While reading some books you must have observed that contents such as author name, name of scientist etc that require special treatment are shown with a symbol besides it. The additional comments for such word (name of author) are normally written at the end of the page. For example if the sample text is, "Sir Isaac Newton* is one of the greatest scientists." Then at the bottom of the page you may find that "* – (25 December, 1642 – 20 March, 1727)" is written. Here it is a reference given to the period for which Sir Issac Newton lived. It is possible to use any symbol in place of *.

In general, a note is additional information in reference to the main text or some comments in support of the main text. If the comment is written at the foot (bottom) of the page it is called **Footnote** and if it is written at the end of the text (either at the end of the chapter or at the end of the book), it is known as **Endnote**. Often numbers are used instead of symbols. Symbols or Numbers are normally written as superscript (like Computer[1] …). Let us now see how to create Footnote and Endnote in Writer.

Creating Footnote / Endnote

To create a Footnote/Endnote, take the cursor where you want the Footnote / Endnote symbol to appear. Choose Insert → Footnote/ Endnote …, A "Insert Footnote/Endnote" dialog box will appear. (See figure 11.33). There are basically two sections in the dialog box namely Numbering and Type.

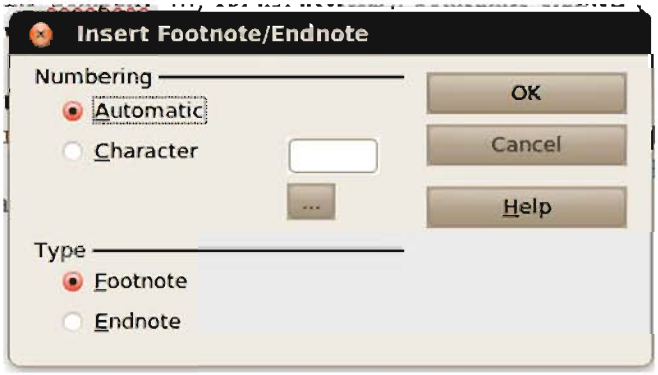

Figure 11.33 : Insert Footnote/Endnote Dialog Box

Numbering : You can use either number or symbol for reference. You can select Automatic or Character from the available options. The default option selected is Automatic, in such a case numbers will be used for reference. If you select Character, you can use any symbol for reference. To insert a symbol, click on ... to display a set of symbols (see figure 11.34). Select a symbol of your choice, in the same way as you are inserting a symbol in a document.

Type : Footnote option is selected by default for inserting footnote. To have endnote, you have to select Endnote option. The same options as explained in Numbering applicable to endnote are also applicable to Footnote. The only difference is its position as mentioned above.

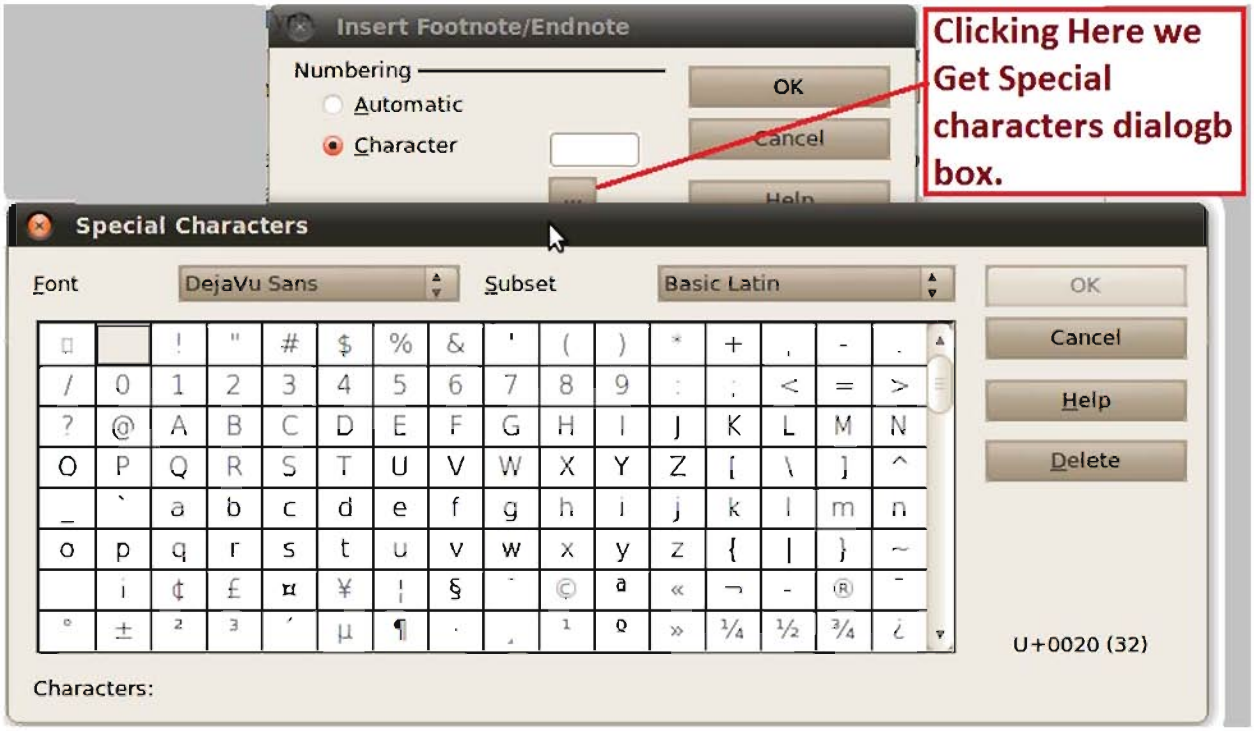

Figure 11.34 : Footnote-Endnote Character Set

Summary

In this chapter we learnt about tables, how to create and insert table in Writer. We also saw that we can perform nesting of tables. This helps us representing complex data in an easy format. The operations on tables include splitting of cells, merging of cells, adjusting the cell size as well as resizing the rows and columns. This also include resizing of table, that is incresing or decreasing rows and columns height and width respectively. We saw that tables can be auto formatted to give better visual look.

The next topic discussed in the chapter was mail merge. Mail merge is a very usefull application to create multiple documents having similar contents with some minor changes. We learnt that different types of documents are required for performing mail merge. We saw how to create and register a data source if one does not exist. The final step here was merging the doucment using printing options. Finally at the end of the chapter we saw how to insert a Footnote or Endnote in a Writer document.

EXERCISE

1. Choose the most appropriate option from those given below :

(1) Before creating table, deciding on number of rows and columns
- (a) is not a good idea
- (b) is a good idea because planning saves time and efforts
- (c) is really necessary because more rows and columns cannot be added later.
- (d) is really necessary because excess rows and columns cannot be deleted later.

(2) Which short-cut key is used to insert table in a document ?
- (a) TAB + F12
- (b) ALT + F12
- (c) SHIFT + F12
- (d) CTRL + F12

(3) The default table size is
- (a) 1 column, 1 row
- (b) 2 columns, 1 row
- (c) 2 columns, 2 rows
- (d) 1 column, 2 rows

(4) Which of the following moves the insertion point to the previous cell ?
- (a) TAB
- (b) SHIFT + TAB
- (c) BACKSPACE + TAB
- (d) CTRL + TAB

(5) What is the shape of the mouse pointer when drawing a table ?
- (a) Pencil
- (b) White pointing arrow
- (c) Black pointing arrow
- (d) Black plus

(6) Which short-cut key is used to insert row or column ?
- (a) SHIFT + INSERT
- (b) ALT + INSERT
- (c) CTRL + INSERT
- (d) TAB + INSERT

(7) Which short-cut key is used to delete row or column ?
- (a) SHIFT + DELETE
- (b) ALT + DELETE
- (c) CTRL + DELETE
- (d) TAB + DELETE

(8) How a table can be deleted ?
- (a) Click anywhere in the table and choose Delete / Table from Table menu.
- (b) Select table and press Delete key.
- (c) Select table and press Backspace key.
- (d) All of the above.

(9) Which of the following is valid type of data source in mail merge ?
- (a) Spreadsheet
- (b) Text files
- (c) Databases such as MySQL, Adabas, ODBC
- (d) All of the above

(10) The default file name of data source in mail merge is
- (a) …\Datasource.odb
- (b) …\test-main-document.odb
- (c) …\Addresses.odb
- (d) …\Recipient.odb

(11) What is the short-cut key to print a document ?
- (a) CTRL + P
- (b) ALT + P
- (c) SHIFT + P
- (d) TAB + P

(12) What are the five options that appear on print dialog box ?
(a) Printer, Page Set-up, Print Range, Copies, Options
(b) Printer, Page Set-up, Page Break, Size, Margins
(c) Printer, Properties, Print Range, Copies, Options
(d) Printer, Properties, Print Size, Color, Page Border

(13) The default orientation of a page in Writer is
(a) Portrait (b) Landscape
(c) Book (d) None

(14) The size of a letter page is
(a) Width – 8.50" and Height – 11.00" (b) Width – 11.50" and Height – 8.00"
(c) Width – 8.27" and Height – 11.69" (d) Width – 8.50" and Height – 14.00"

(15) Which four margins can be set from Margin section ?
(a) Top, Bottom, Header, Footer (b) Top, Bottom, Left, Right
(c) Header, Footer, Left, Right (d) Header, Footer, Row, Column

2. State whether the following statements are True or False ?

(1) The text written in Header and Footer is printed on each page of the document.
(2) The page number appears with gray background and is printed with background.
(3) When splitting a table into two tables, the Heading row(s) are copied in the second table automatically if *repeat heading* option is checked.
(4) Writer creates a table as wide as the page area.
(5) A new column is created in table by pressing *tab* key.
(6) Only one row can be specified as a *heading* of a table.
(7) The default alignment of the text in the cell is top-center of the cell.
(8) Cells in a the same row or same column can be merged only
(9) Mail merge is used to prepare multiple copies of same document.
(10) The Form Letter contains the variable information in mail merge.
(11) The portrait and landscape orientations are set in Paper option under properties.
(12) In Print Range by default current page is selected for printing.
(13) The Collate option in Copies will print page wise specified number of copies of documents.
(14) By default the page size is A4.

PRACTICAL EXERCISE

1. Create a table showing results of randomly selected 5 students of standard 9 as shown in the following table :

Sr. No,	Roll. No.	Sub-1	Sub-2	Sub-3	Sub-4	Sub-5
1.	1	25	23	14	19	18
2.	5	16	13	17	21	22
3.	7	14	15	22	17	19
4.	10	20	12	18	16	15
5.	15	17	19	20	14	21

Perform the operations stated below :

(i) Change the column width to best fit the content. (The maximum length text should fit exactly)

(ii) Move the table in the center position.

(iii) Increase the row height looks like double.

(iv) Make the content of all the cells vertically center aligned.

(v) Insert a column to the right of the last column and type the total of marks obtained by all the students.

(vi) Split the second cell in to two cells horizontally and type Subject Name and Roll No. in upper and lower cells.

(vii) Insert a column to the left of the last column inserted and move the content of the last column to the newly inserted column.

(viii) Type the average marks in the last column.

2. Create a table given below. Use cell merge where required :

State : Gujarat				
Crop →	Wheat	Rice	Cotton	Average
Region	Amount shown is in '000000 Rs.			
North	609	214	198	340.33
East	467	580	79	375.33
West	278	449	322	349.66
South	105	529	521	385.00

Create similar table for any three states of your choice. Show the information of all the four states in a single nested table.

3. Write a letter using Mail Merge, calling all the students who have secured 1st and 2nd rank in the final examination of each class of std. 8,9 and 10 to collect the prices in the annual day celebration of your school to be held on 25th January of the coming year.

Introduction to Presentation

The researchers have proved that the visual effect can create greater impact over other modes of communication. Today presentation ability is considered to be the most essential criteria in the recruitment of people almost at all the levels. Presentation skill matters a lot when we propose a new idea or an existing concept to others. Presentation skill not only includes the content of the presentation but it also includes flow of presentation as well as the way you present it. Quite often it happens that a person would like to share some good ideas or concept but due to poor presentation or its improper flow, the actual meaning gets lost. Today computers are highly used to prepare effective presentation. A presentation can contain number of slides or may be in the form of animation. In this chapter, we shall learn how to create an effective presentation using computers. You are now familiar with OpenOffice.org. Impress is a program, which is part of OpenOffice.org, it facilitates creation of presentation. It allows us to prepare a simple presentation or to add animation in it. It also facilitates in inserting different objects like graph, tables, pictures or movies in the slides to make the presentation more effective.

Advantages of Using a Presentation

There are number of advantages of using a presentation prepared with computer :

- In corporate, a person shows his ideas to a group of people using presentation.
- Today presentation is highly used in teaching. Several concepts, which may be difficult to explain, can easily be taught using presentation. For example, a teacher wants to explain digestive system of human being, a complete digestive system using pictures and animation can be shown very effectively using presentation.
- Models of an actual building or a machine or any complex system, can easily be created and explained. It may cost us very high, otherwise, if models are prepared using card boards and other materials.
- Printing of presentations, created using computer is also possible.

Modern computers allow many facilities in preparation of presentation. Apart from inserting graphs, pictures, or sounds in a presentation, we can insert word processor file or a spreadsheet or even a database.

Introduction of Impress

OpenOffice.org's presentation program is called Impress. In a presentation, slides are created and can have many different objects like bulleted and numbered lists, text, tables, pictures, charts and a wide range of graphic objects contained in it. Impress have features like a spelling checker, a thesaurus, prepackaged text styles, attractive background styles etc. similar to the features available in Writer.

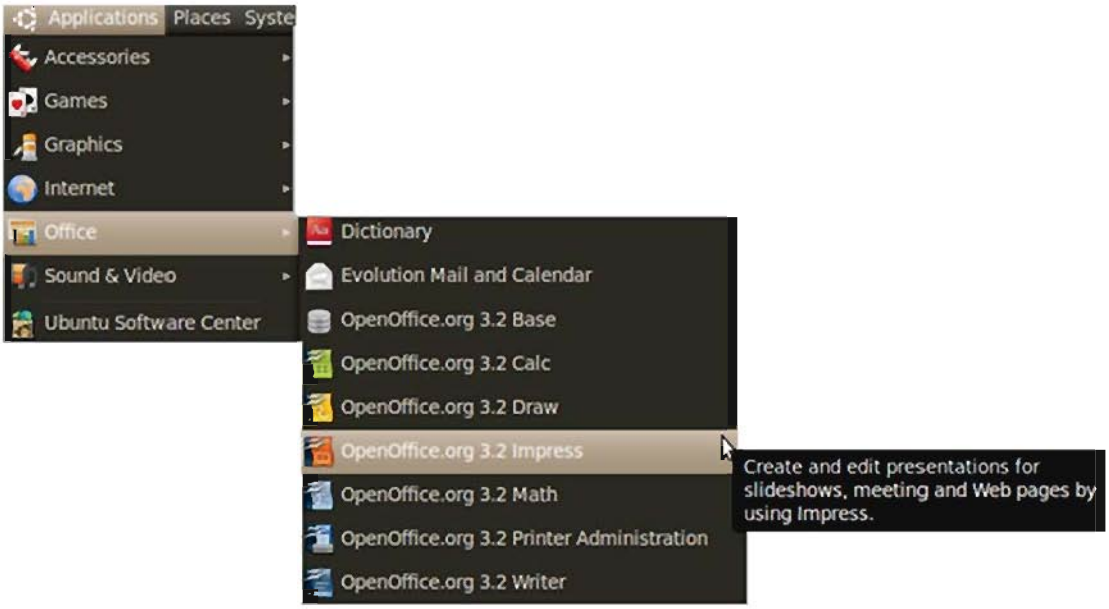

Figure 12.1 : Starting Impress

Starting Impress and Creating a New Presentation

You can open Impress in different ways. If the shortcut is created, you will find icon for OpenOffice.org 3.2 Impress on your desktop. If the icon is present then double click on the icon. If no short cut is available; then choose Application → Office → OpenOffice.org 3.2 Impress (See figure12.1). Doing so, you will get the screen of Presentation Wizard as shown in figure 12.2. There will be three options available as shown below:

(1) ⊙ Empty presentation (This option is selected by default)

(2) ○ Form template

(3) ○ Open existing presentation.

Select Empty presentation if not selected and then Click on Create button. A new blank presentation will open (A file created in Impress is called presentation).

Figure 12.2 : Presentation Wizard

If you don't want this wizard screen again, you can select 'Do not show this wizard again' option and then click on create. The screen so opened is called the main Impress window (See figure12.3).

The main Impress window has three parts: the Slides pane, the Workspace, and the Tasks pane. Several toolbars can be displayed on the screen during the creation of a presentation, same as you are doing in Writer. The toolbars on the screen can be hidden if they are no longer useful in the presentation. To maximize the Workspace area, you can remove the Slides pane or the Tasks pane from screen by clicking the X in the upper right corner of each pane. These panes can be viewed again on the screen by selecting View Slide Pane or View Task Pane from menu options. Hiding or displaying the panes can also be done by clicking the Hide/Show marker (See figure 12.3) in the middle of the vertical separator line.

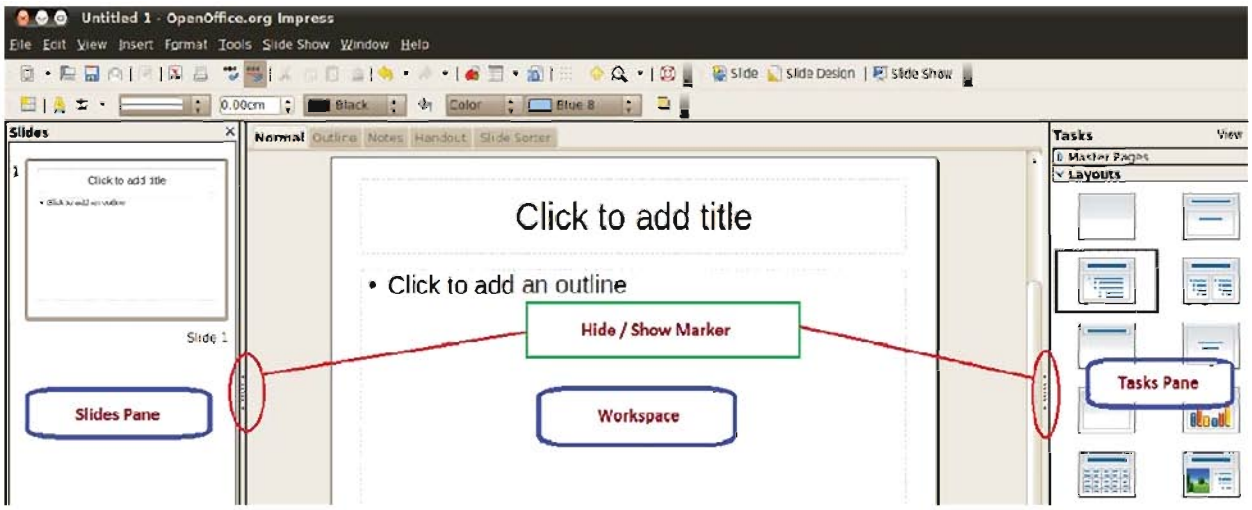

Figure 12.3 : Main Impress Window

Slides Pane

One of the three parts of the main impress windows is 'Slides pane'. This part contains the smaller picture of the slides of your presentation. These smaller pictures of your actual slides are called thumbnails. The thumbnails are in the same order of the slides of your presentation. The order of the slides can be changed. Clicking a slide in this pane, the slide will be selected as current slide and will be placed in the Workspace. When a slide is in the Workspace, you can edit it as per your needs. Several additional operations can be carried out on current slide or on selected slides or on all slides simultaneously in the Slides pane. Some of the common operations are listed below.

- A slide can be moved (by using Cut & Paste operation or simply by dragging) to other position and thus order of the slides can be changed.
- One or more slides can be copied at one or several places (by Copy & Paste).
- New slides can be added to the presentation.
- Any slide can be deleted, if it is no longer needed.
- You can hide one or more slides, if you don't want them as a part of your presentation.

- Slide names, by default, slide1, slide2, and so on can be renamed.
- You can change the slide design or slide layout for the selected slides simultaneously.

Tasks Pane

The second part of the main impress window is known as Tasks pane. It has five sections. They are Master Pages, Layouts, Table Design, Custom Animation and Slide Transition. Anyone of these five sections can be seen in full view at a time. To view the tasks pane, click on the right-pointing triangle to the left of the section name.

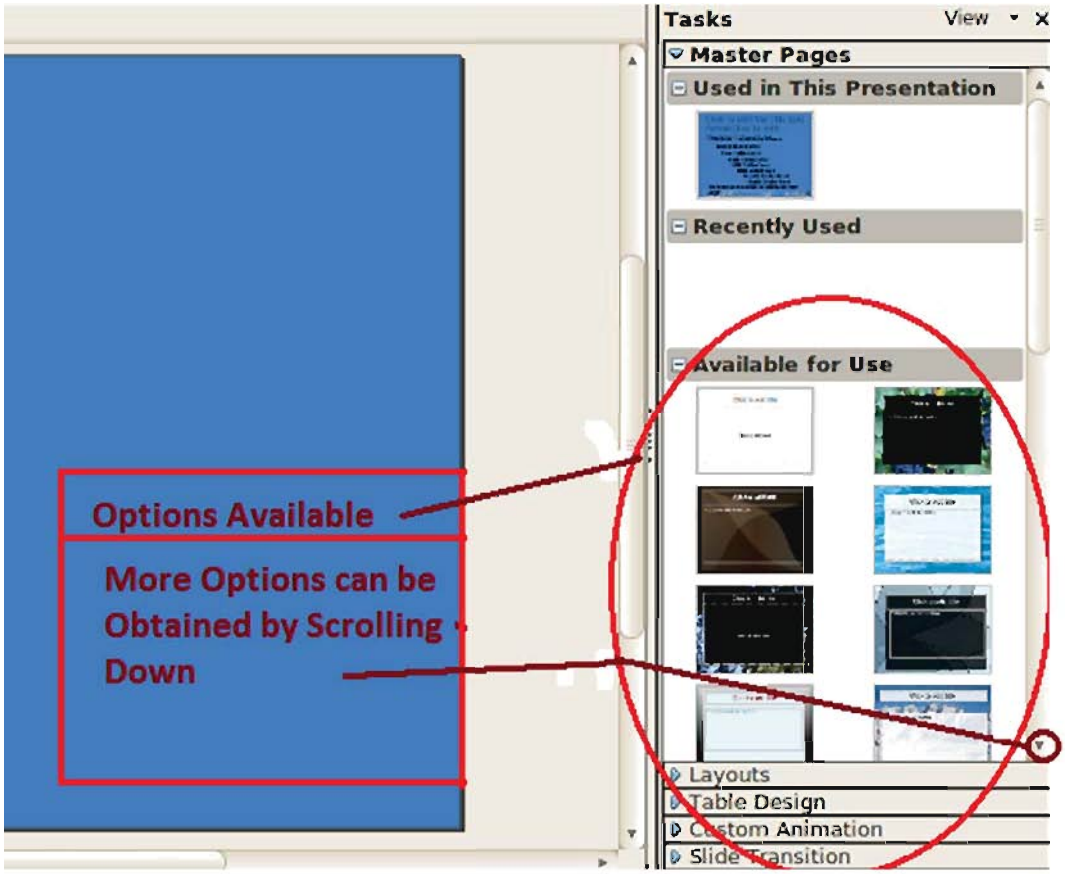

Figure 12.4 : Master Pages – different styles and background

Master Pages

Every slide in a presentation has exactly one slide master. A slide master determines the text formatting style for the title and outline. It also defines the background design for all slides. If you select this option, you will find many predefined slides in Master Pages. Obviously all the predefined slides have different text style and background (See figure 12.4). One of them is blank and it is the default.

Layouts

If you choose this option, different preformatted layouts are displayed. As per your need, you can choose any one of the options available. It can be modified, if required but new layout cannot be created. (See figure 12.5)

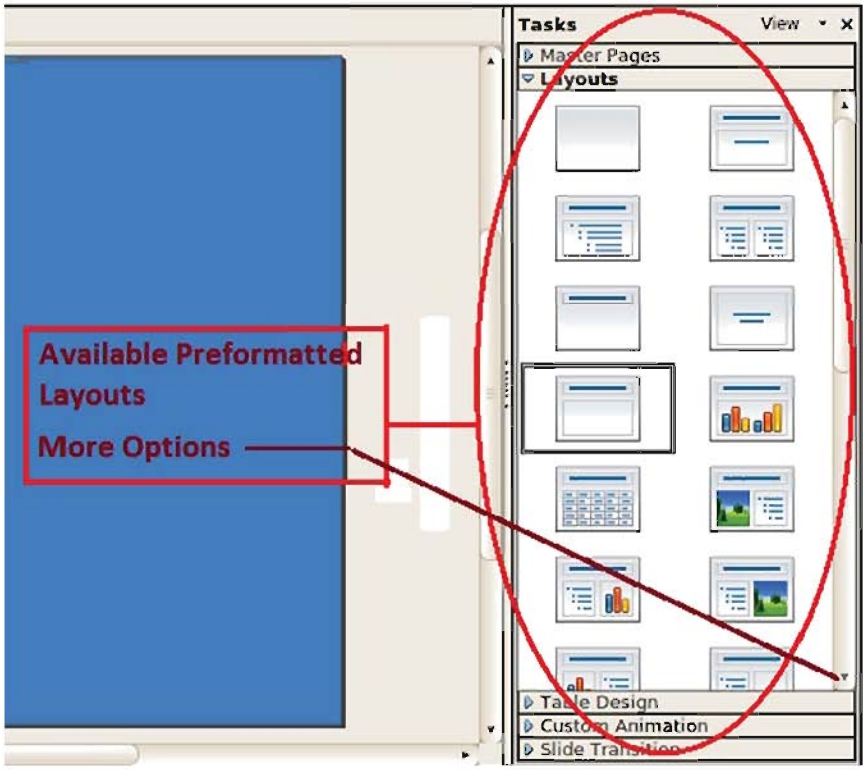

Figure 12.5 : Preformatted Layouts

Table Design

If you choose option of Table Design, like Master Pages and Layouts, the standard table styles are offered (See figure 12.6). Options are available to show or hide specific rows and columns using which you can further modify the appearance of a table, as per your requirement.

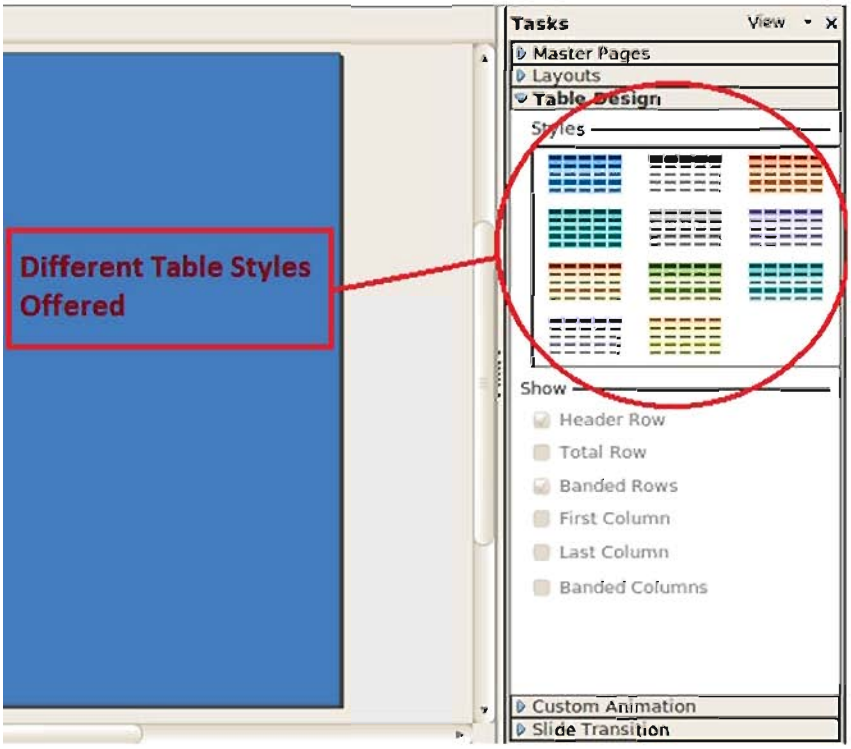

Figure 12.6 : Table Designs

Custom Animation

A slide contains text, table, graph or any such objects. Using the options available in this section you can apply animation effect to any selected portion of the slide. You can also visualize the effect of the animation on the selected elements, immediately after the selection. By selecting OK you can finally apply the effect of the animation. A variety of animations are available here (See figure 12.7). Animation once applied to a slide can also be changed or removed later.

Slide Transition

The dictionary meaning of Transition is change. The meaning of slide transition in our case is the effect that is applied during the movement from one slide to another. Slide Transition can be applied to selected slides. Several transitions like Wipe Up, Wipe Down and others are available. No transition is also available which makes the next slide simply replace the existing one. Like custom animation, you can also preview the effect of your selection immediately on selection of a particular option. You can change the transition speed from the three options available; they are slow, medium or fast. The Slide transition can be set as automatic or manual. If you want that the transition is automatic at a certain interval, Select Automatic. Here you have to set the time interval at which the next slide is to be presented. The default time interval is 1 second. By selecting all slides, the slide transition set will be applied to all the slides of the presentation. (See figure 12.8)

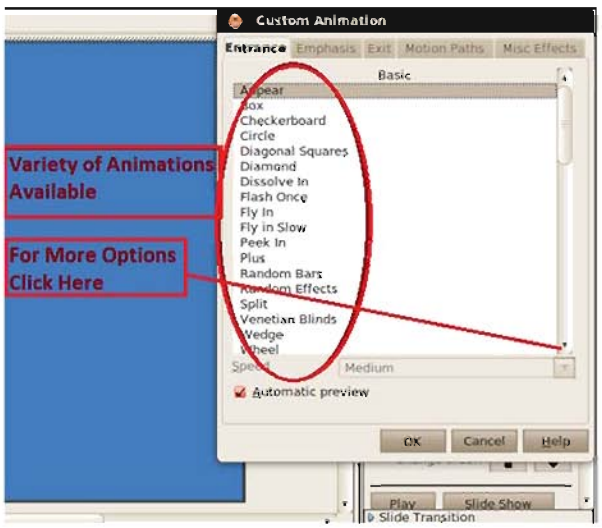

Figure 12.7 : Custom Animation

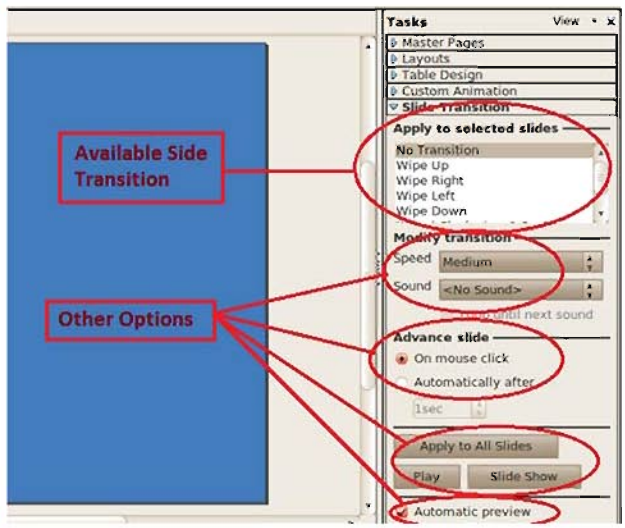

Figure 12.8 : Slide Transition

Workspace

The third and central part of the screen is called the Workspace. The content of the slide is displayed here. It has five tabs, also called View buttons. These tabs are 'Normal', 'Outline', 'Notes', 'Handout' and 'Slide Sorter' which are just above the Workspace. Depending on your selection of view buttons, the Workspace changes (See figure 12.9). The view buttons are described below.

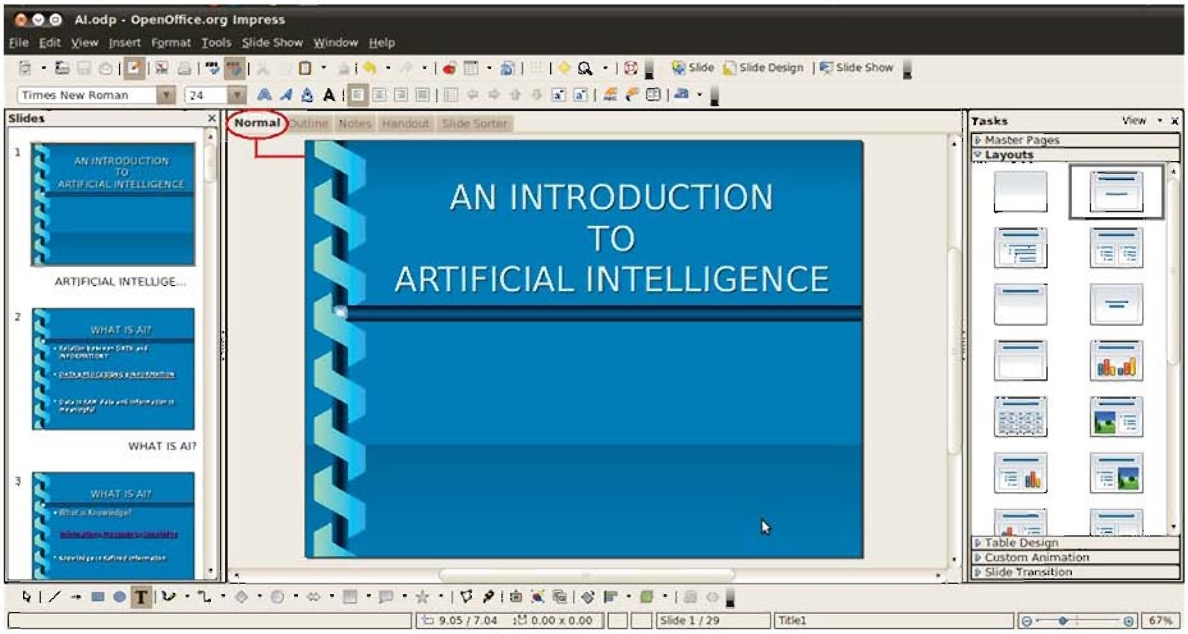

Figure 12.9 : Work Space

Normal View

While creating, formatting and designing slides, Normal view is used. The same view is used to add text, graphics and animation effects. As mentioned in the 'Slides pane', by clicking thumbnail of a slide, we can lay the slide in the Workspace area of the Normal view (See figure 12.9).

Outline View

In Outline View all the slides of the presentation are shown in the sequence of their number. The content of a slide includes only topic titles, bulleted lists, and numbered lists in outline format that is left justified text. Drawing objects as well as the text within these objects are not shown. Slide names are also not included. (See figure 12.10).

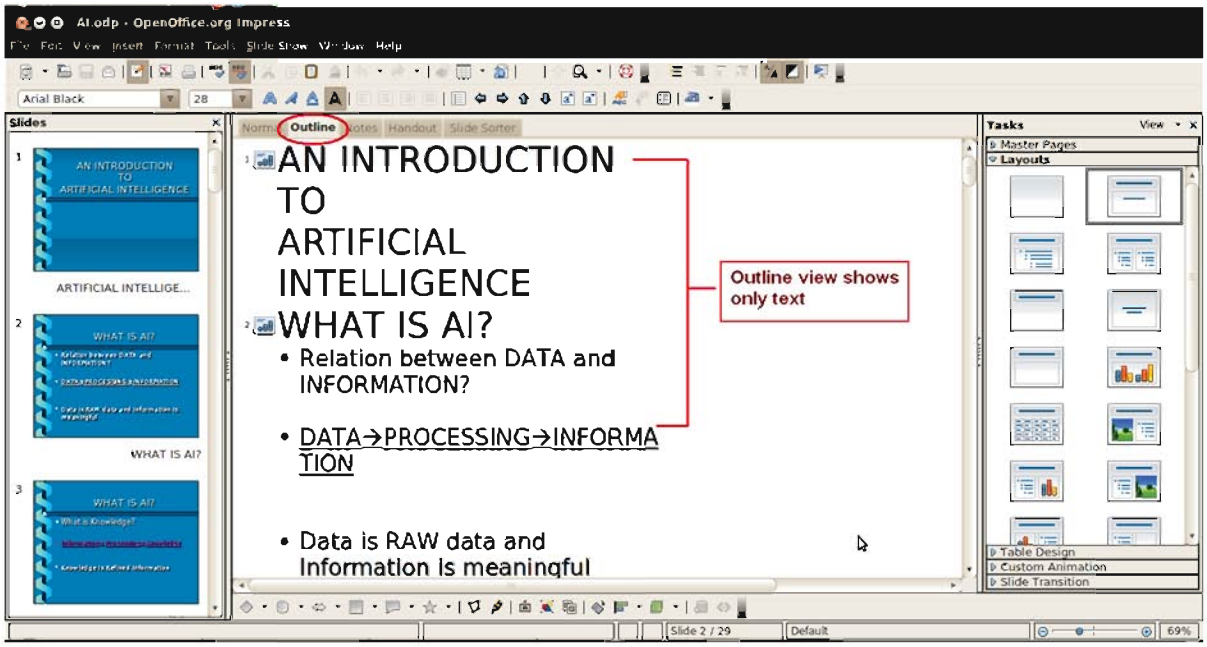

Figure 12.10 : Outline View

Outline view is used for quick modification of text in the slides including addition or deletion of text, moving and copying of text, changing the outline level for any of the paragraphs in a slide using the left and right arrow buttons. This view is also used for comparing the slides with outline of a slide created in advance. Slides can also be created directly in the Outline view.

Notes View

The Notes view is used to add notes to a slide. These notes are not seen when you are presenting slide show. Just by clicking on 'Click to add notes' in the upper – left corner of the text box below the slide, you can start typing for the notes you want to add (See figure 12.11). You can resize the 'Notes' text box in the way similar to the way you are resizing any other window. To resize the window, place the pointer on the border and move it to desired place by dragging. Usually notes are used to provide additional information to the person who has created the presentation.

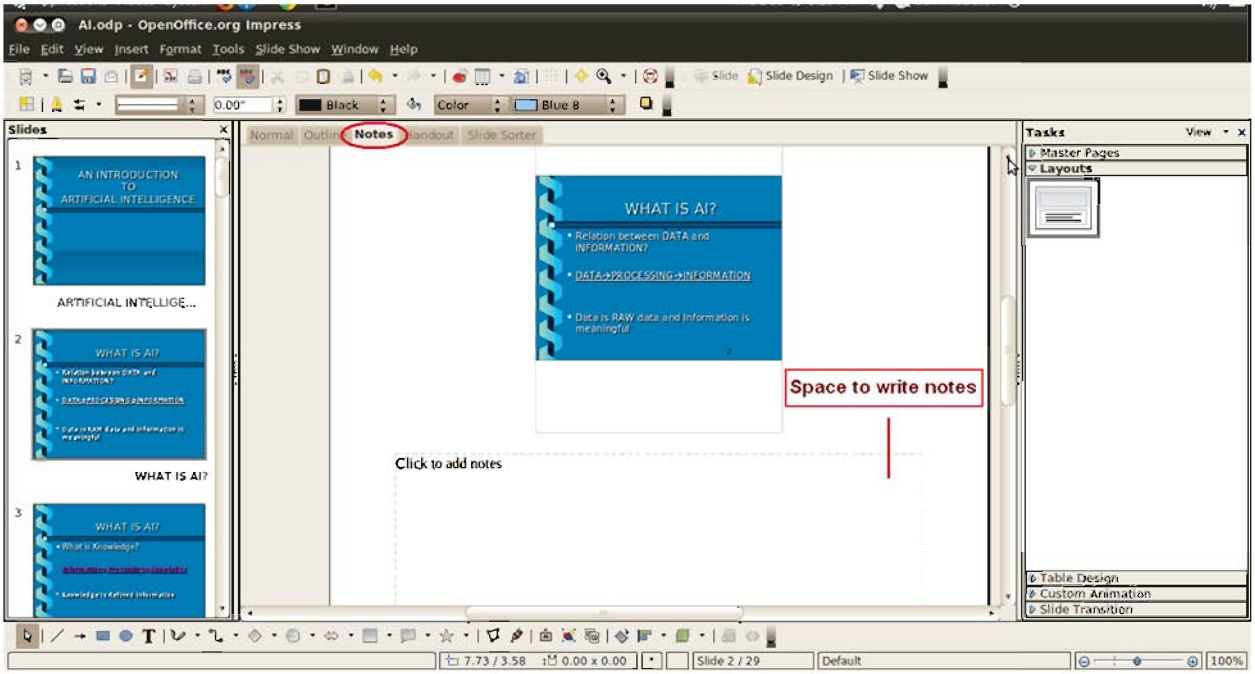

Figure 12.11 : Notes View

Handout View

Handout generally is used to group multiple pages on a single page at the time of print. It is useful to the presenter, as it allows him/her to check the appearance of the slides. It is also used to give contents of the slides in the hardcopy to the viewers. To print the slides of the presentation, you have to decide that how many slides you want to print per page. Handout view is used for setting up the page layout in the form of number of slides to be printed per page. Different Layout options are available from which the desired Layout is selected. The options available are 1, 2, 3, 4, 6, or 9 slides per page (See figure 12.12).

Slide Sorter View

If you want to work with single slide or group of slides, slide sorter view is used. This view contains all of the slide thumbnails. The number of slides per row can be customized using

Slide Sorter View. You can display or hide Slide View by selecting View menu and then Toolbars and Slide View. The number of slides per row can maximum be set up to 15 (See figure 12.13).

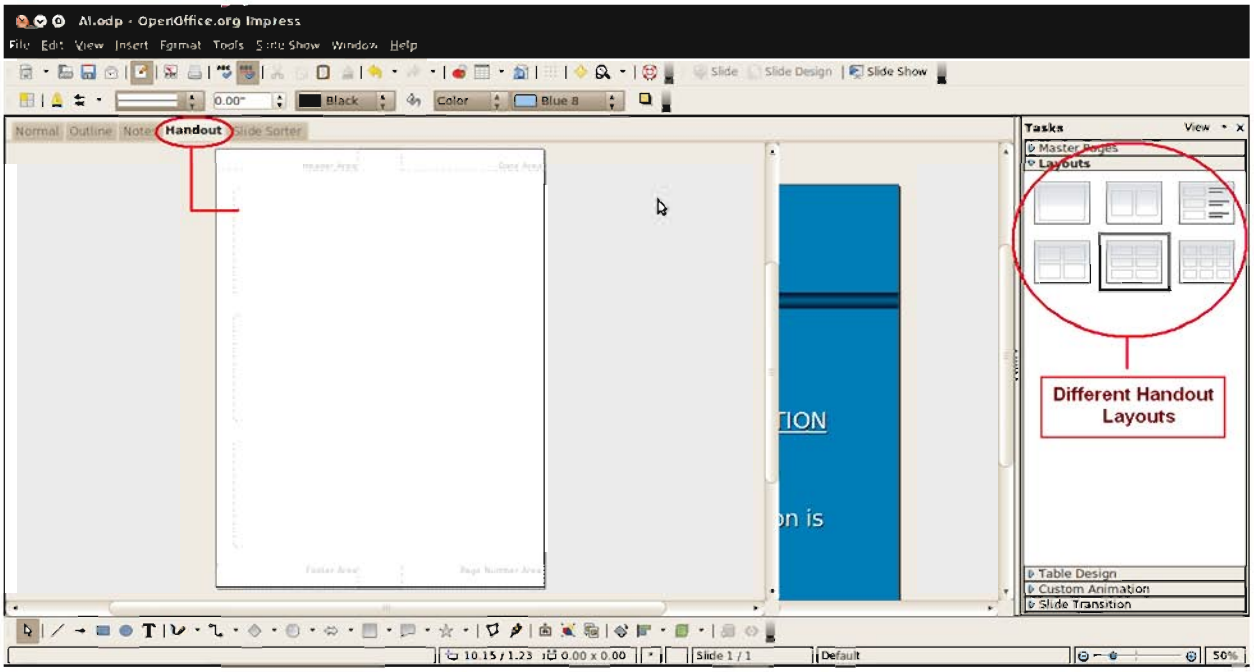

Figure 12.12 : Handout View

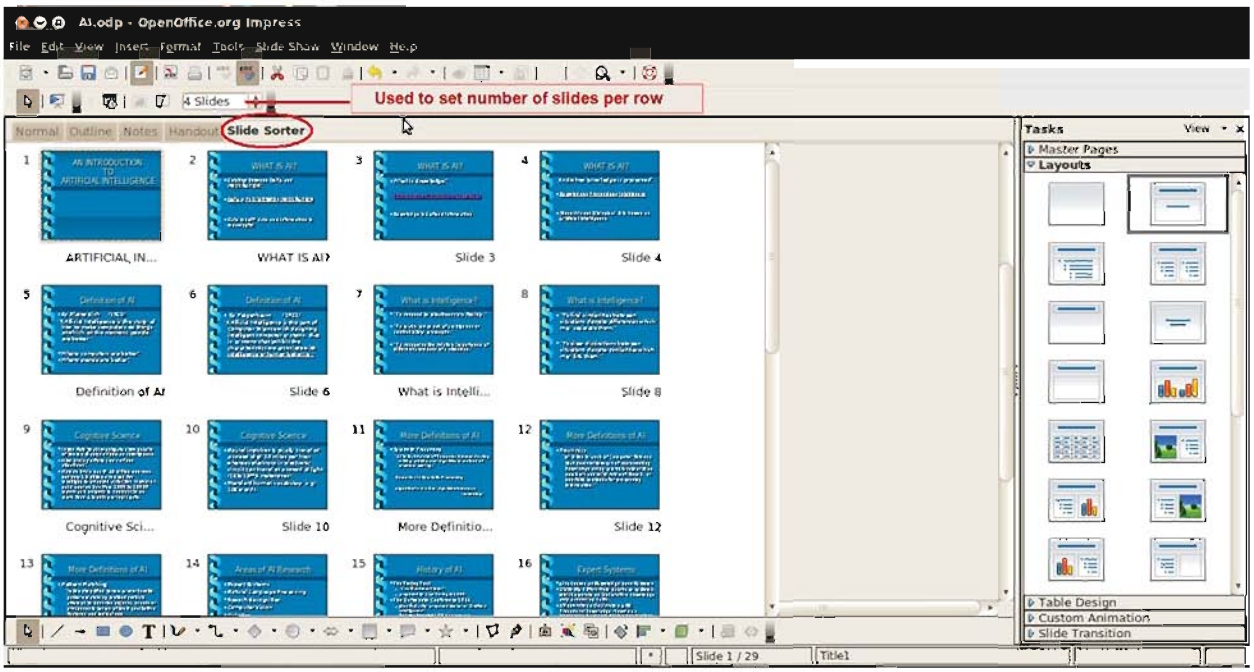

Figure 12.13 : Slide Sorter View

To perform any operation on group of slides they must be selected first. If the slides to be selected are in sequence, you have to select the first slide of the slides to be selected and then hold down the Shift key and select the last slide. If the slides to be selected are not consecutive, select any slide of the slides to be selected and then hold down the CTRL key

and select the next slide. Repeat the process till all the required slides are selected. You can perform all the operations as we can perform in Slides Pane. That is adding slides, moving slides, copying slides etc.

Status Bar

The status bar, located at the bottom of the main Impress window as shown in figure 12.14, contains information that you may find useful when working on a presentation. You can hide the information in the Status Bar by selecting View → Status Bar from the main menu.

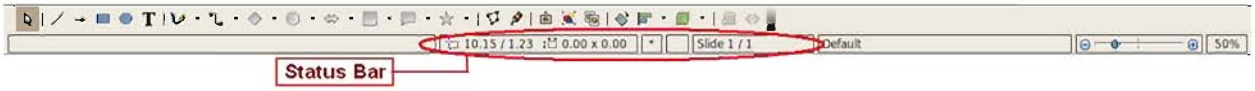

Figure 12.14 : Status Bar

Renaming Slides

Right-click on a thumbnail in the Slides pane or the Slide Sorter and choose Rename Slide from the pop-up menu. In the Name field, change the name of the slide. Click OK (See figure 12.15).

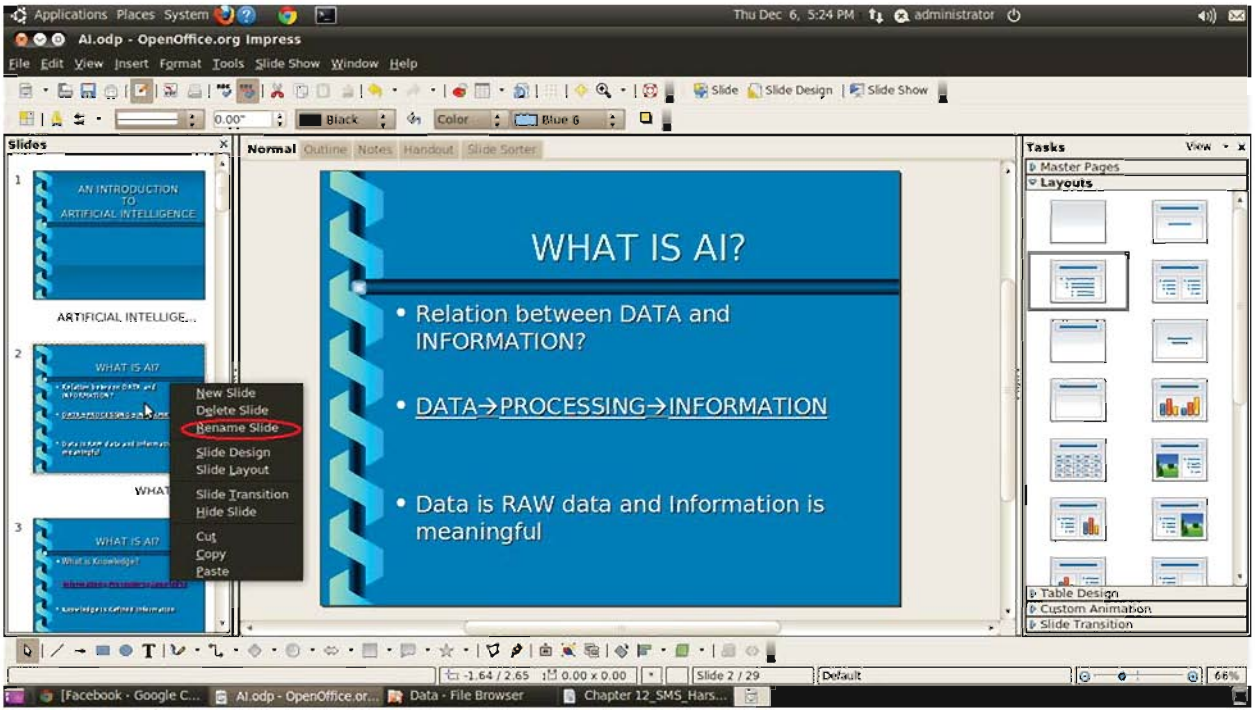

Figure 12.15 : Renaming Slide

Formatting a Presentation

When you create a new presentation, generally it contains one empty slide. After that we have to add new slides and in that we have to add text and other objects. Now we will learn how to add new slides and the planned content there in.

Inserting Slides

Slide can be inserted in many different ways :

- Go to Insert menu and select Slide.
- Alternatively select Slide → New Slide from the pull down menu, obtained by Right clicking on the present slide.

  Or click the Slide icon  in the Presentation toolbar.

- A duplicate slide can also be inserted. To insert a duplicate slide, select the slide you want to duplicate from the Slides Pane and then select Insert à Duplicate Slide.

Selecting and Moving a Block of Slides

One or More slides can be selected using one of following ways :

- Click on the first slide and while pressing CTRL key select the other desired slides.
- Another way is using shift key: Click on the first slide and while pressing the Shift key, select the final slide of the block of slides. This selects all of the other slides between the first and the last.
- With the help of mouse we can select a group of slides. For this, click slightly to the left of the first slide to be selected. Hold down the left mouse button and drag the mouse pointer to a spot slightly to the right of the last slide to be included. The same can be selected also by doing this right to left. A dashed outline of a rectangle forms as you drag the pointer through the slide thumbnails and a thick border is drawn around the selected slides. Make sure the rectangle includes all the slides you want to select.

The block of the selected slides can be moved in the same way as we are moving a block of text. That is by cut and paste options or by dragging the mouse. The cut and paste operations can be performed in usual way that is using keyboard, using icons and using menu options. If you want to use the mouse only, then simply drag and drop the selected block to their new location. A vertical black line appears to show you where the group of slides will be moved.

Selecting a Layout

The Layout is already discussed above in the section of Tasks pane. From the available layouts choose the desired layout. The Layouts differ in the number of elements a slide will contain, from a blank slide to a slide with six contents boxes and a title. You can select any one of these. You

can change the layout for each slide. To select or change the layout of any slide, place the slide in the Workspace and select the desired layout. The layout contains several boxes for Text, Media clip, Picture, Chart and Table in different look.

Slide Master

A slide master is a controller slide; it is similar to a page style in Writer. The basic formatting of all slides is controlled based on the specifications given in the slide master. A presentation can have multiple slide masters. There are 28 pre-defined slide masters in Impress. As we have discussed previously in the task pane section, you can apply the slide master settings to only one slide or all slides.

Though there are 28 pre-defined slide masters, you can create your own slide master. Creating slide master is very simple. Select Master → Slide Master in View menu, you will get Master View as shown in figure 12.16 on the Workspace. Alternatively you will get the Master View by Right Clicking on any slide master in the Master Pages and then selecting Edit Master. Start with any slide master and modify it as per you requirement. Select New Master icon in the Master View toolbar. The slide master so created will be shown in the Slide Pane. To return to normal slide editing, select Close Master View in the Master View toolbar.

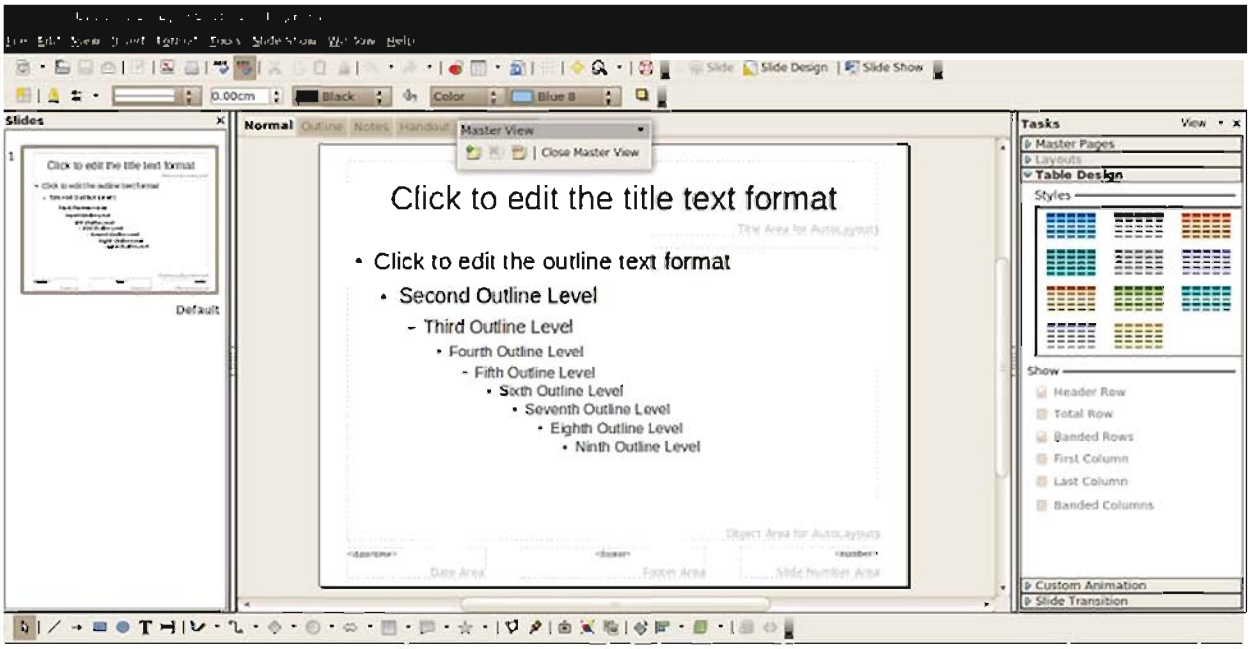

Figure 12.16 : Creating New Slide Master

Modifying the Slide Elements

Once you select any slide master, the Workspace contains all the content of the selected slide master. You can now modify the selected slide master as per your requirement. Note that modification in the slide master can be done in Normal View only.

Adding Picture or Object to the Slide

- To add a picture from the clipart available in layout perform the steps mentioned :

  (i) From the Layout select the slide format having the picture frame.

  (ii) Double-click the picture within the frame (see figure 12.17). The Insert picture dialog box will open.

  (iii) Select the picture you want to insert.

  (iv) Click Open. The picture will be inserted in the Workspace.

  (v) Resize the picture, if you want.

- To add pictures from graphic files perform the steps mentioned :

  (i) Select Insert → Picture → From File. The Insert picture dialog box opens.

  (ii) Select the file and then select the picture you want to insert and click Open.

  (iii) Move the picture to the desired location.

  (iv) Resize the picture, if necessary.

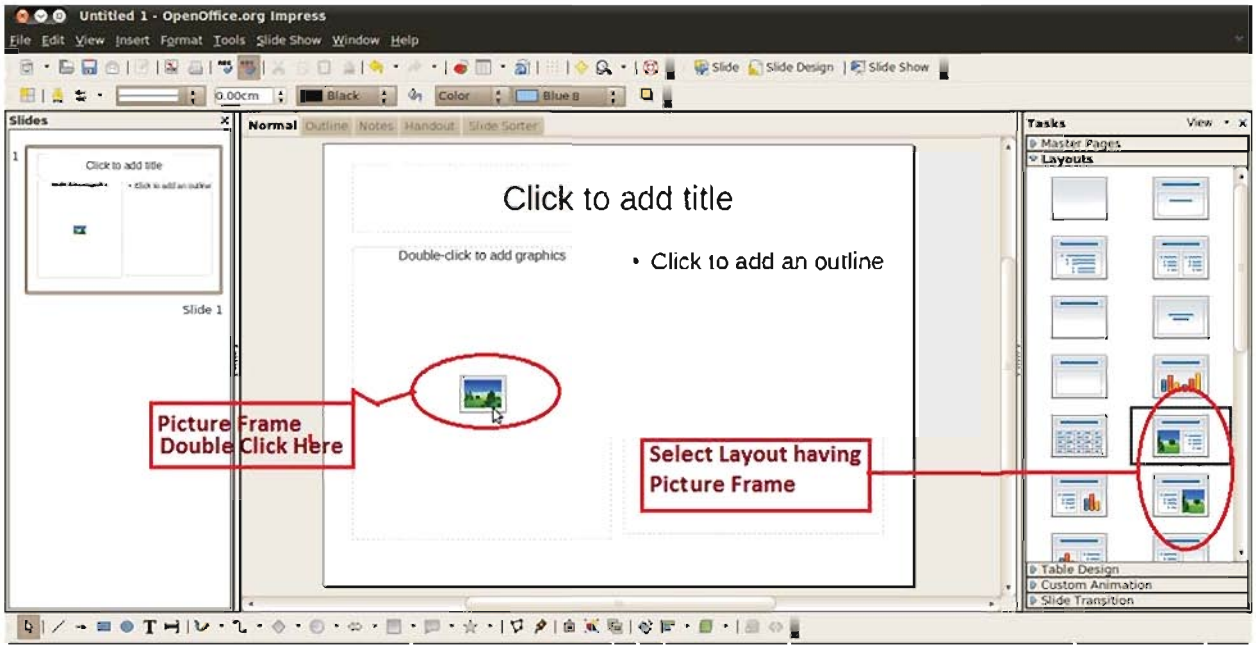

Figure 12.17 : Inserting Picture

Note :

If you have a picture in the form of hard copy and if you have scanning facilities, you can insert picture by scanning it also. To do so, select Insert → Picture → Scan → Select Source (See figure 12.18). You will get Scanner dialog box with list of scanners (Printers). Select the Scanner using which you are scanning the picture.

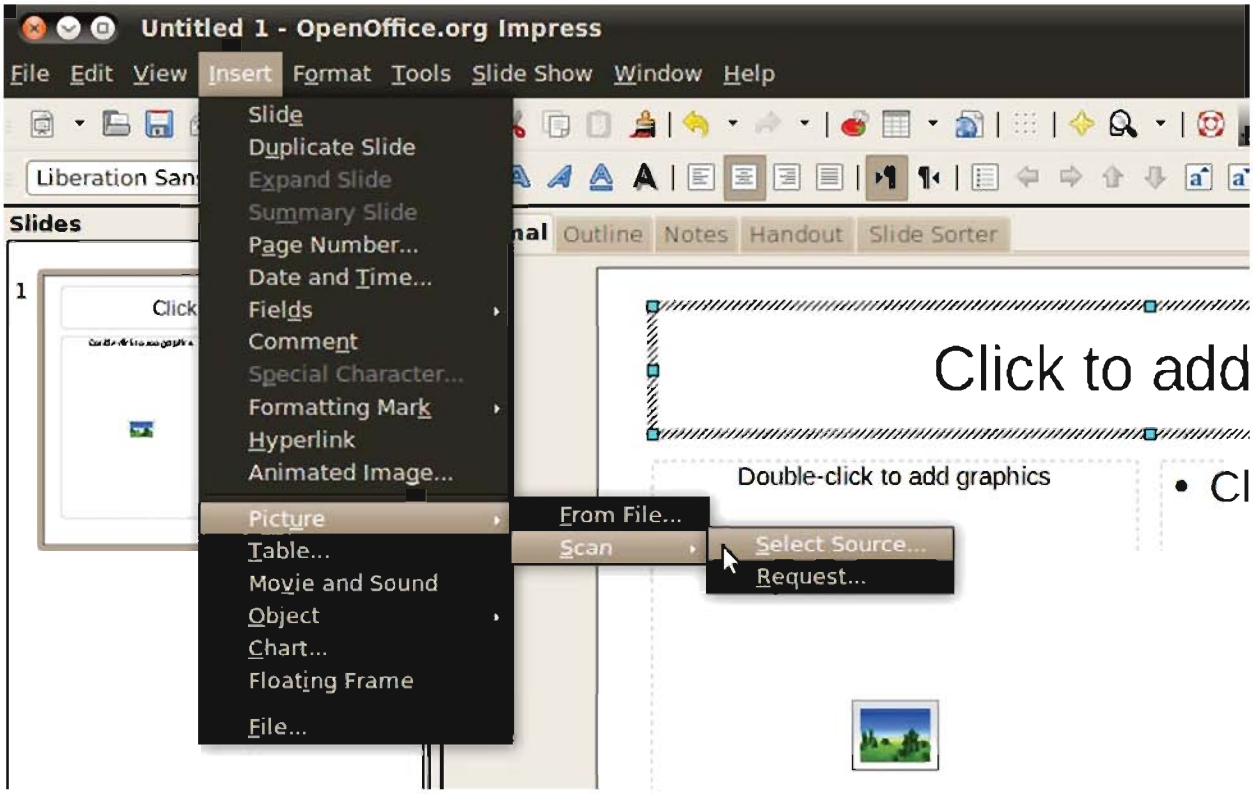

Figure 12.18 : Inserting Picture Through Scanner

In the similar way, by double clicking the respective frames, the text or objects can be inserted. To remove any element from the slide that is not required, click the element to select it. The green handles show that it is selected; press the Delete key to remove it.

Modifying the Appearance of Slides

If you want different appearance of all the slides in your presentation, either you have to select another slide master from a range of pre-formatted Slide Masters, found in the Master Pages section of the Tasks pane or modify the selected Slide Master. You can also create and save additional slide masters or add more from other sources. Creation of slide master is already explained above.

To change the background, you can use menu options :

(1) Select Format → Page and go to the Background tab.

(2) Select the desired background and click OK to apply it.

A dialog box opens, asking if the background should be applied to all the slides. If you click Yes, Impress automatically modifies the slide master.

Slide Show

A presentation prepared, can be shown by running slide show. Slide Show gives you a Full Screen View. This can be done in one of the ways mentioned :

- **Using Menu :** Select Slide Show on the main menu and then Click on Slide Show.

- **Using Toolbar :** Click the Slide Show button on the Presentation toolbar or the Slide Sorter toolbar (See figure 12.19).
- **Using Keyboard :** Press F5.

Figure 12.19 : Slide Show Button

During slide show (also called Presentation), If the slide transition is On Mouse Click, Press the down arrow key(↓) or spacebar on the keyboard to go to next slide or Click the mouse button to switch to the next slide. You can move back to the previous slide also by pressing up arrow key(↑)on the keyboard. If you have set 'Automatically after' 1 second in the slide transition, the slide show runs by itself after every 1 second. The default slide transition is On Mouse Click. You can exit from the slide show by pressing Esc key at any time during show.

Adding Text to All Slides

You may need to show some text like date, slide number or name of your company. in all the slides. We can include the required content in Header or Footer. Some of the supplied slide masters have such text objects in the footer (See figure 12.20). You can add other text objects to the master page for your slides to act as a header or footer.

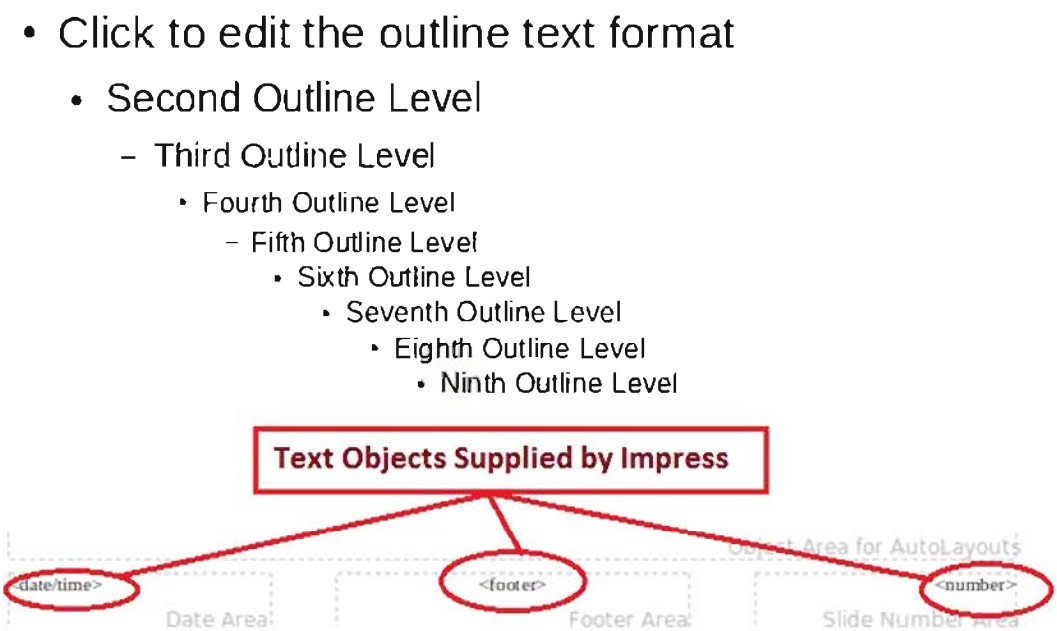

Figure 12.20 : Some Text Objects

(1) Choose View → Master → Slide Master from the menu bar.

(2) On the Drawing toolbar, select the Text icon, available at the bottom of the screen.

(3) Click once and drag in the master page to draw a text object, and then type or paste your text into the object. You can also add the value of pre-defined fields if required. (See figure 12.21).

(4) Choose View → Normal, on completion of the task.

To add a field, such as the date or page number, to a text object in the header or footer, choose Insert → Fields and select the required field from the submenu. If you want to edit a field, select it and choose Edit → Fields. The fields that you can use in Impress are as mentioned : (See figure 12.21)

- Date (fixed).
- Date (variable) —updates automatically when you reload the file.
- Time (fixed).
- Time (variable)—updates automatically when you reload the file
- Author—First and last names listed in the OpenOffice.org user data.
- Page number (slide number).
- File name.

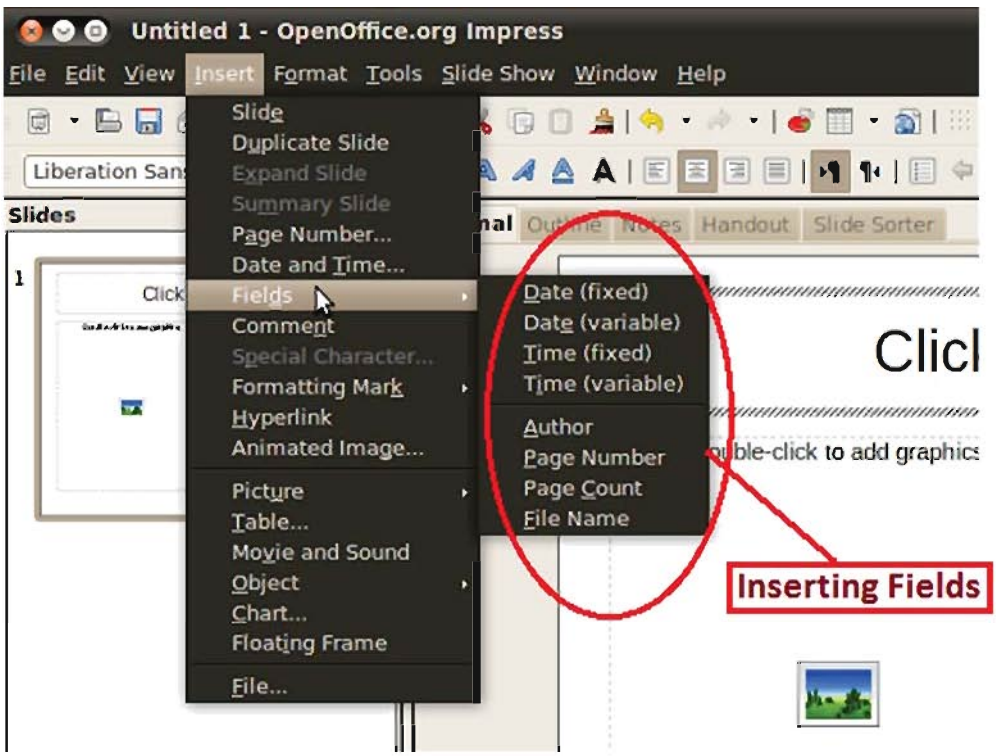

Figure 12.21 : Inserting Fields

The default page number format can also be changed. To change the number format (1,2,3 or a,b,c or i,ii,iii, etc.) for the page number field, choose Format → Page and then select a format from the list in the Layout settings area (see figure 12.22). To change the author information, go to, Tools → Options → OpenOffice.org → User Data.

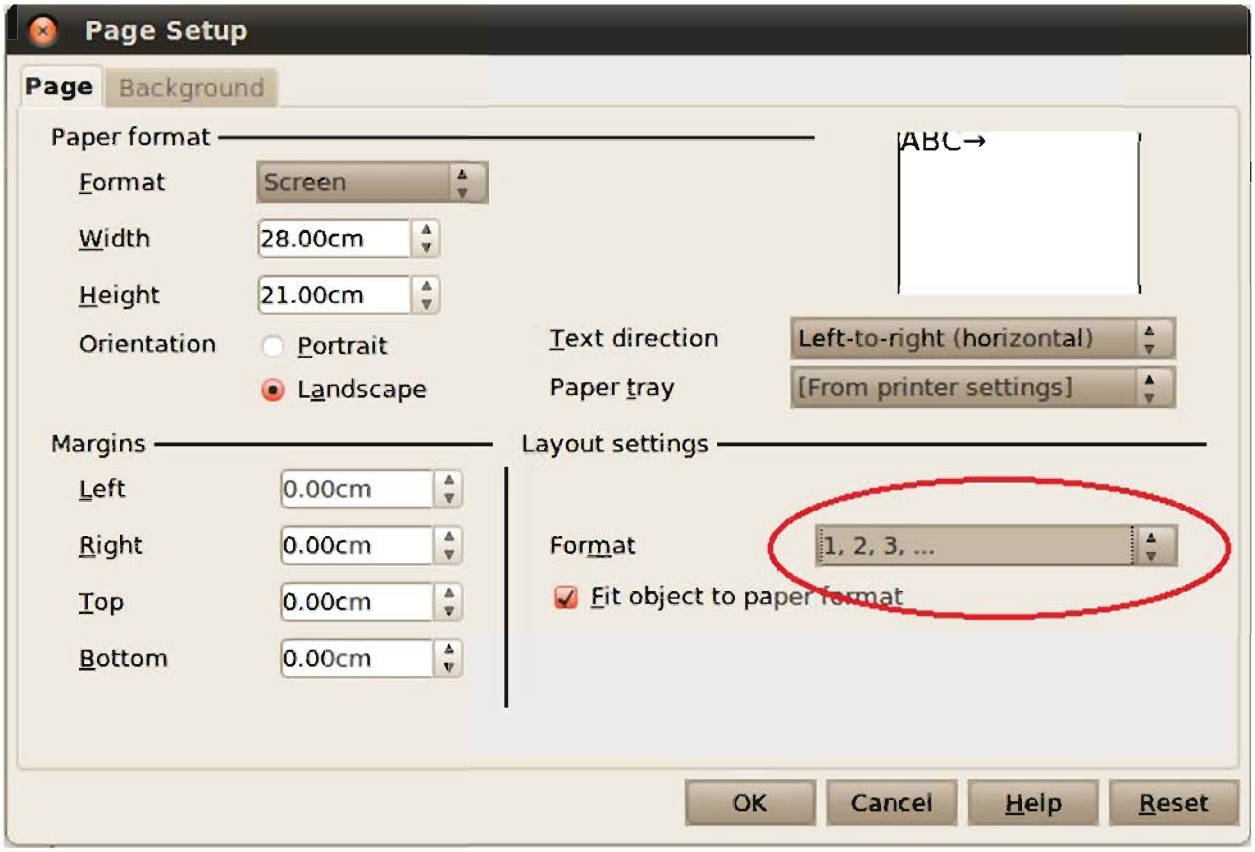

Figure 12.22 : Changing Page Number Format

Templates and Its Usage

In OpenOffice.org, all documents are based on templates. Impress starts with the presentation wizard. When you create a new presentation using any of the way explained in the beginning of the chapter and if the Presentation Wizard is active, you will see several options available for a new presentation. One of them is 'From template'. If the Presentation Wizard is inactive (turned off), the OpenOffice.org uses the default presentation template. If you have not defined your own default template, a blank template is used available with Impress.

Using templates available with OpenOffice.org

Impress provides a set of prepackaged templates. The 'Presentations' folder contains two templates and the 'Presentation backgrounds' folder has some other templates. Templates available in Presentation templates include a set of slides with sample titles and topics. Templates available in Presentation background have only backgrounds and background objects. You can create a new presentation from the available templates. To do so, Select File → New → Templates and then Documents from the menu bar. The Templates and Documents – Templates window will be as shown in figure 12.23. Double-click the template's name, based on which you want to open a new presentation.

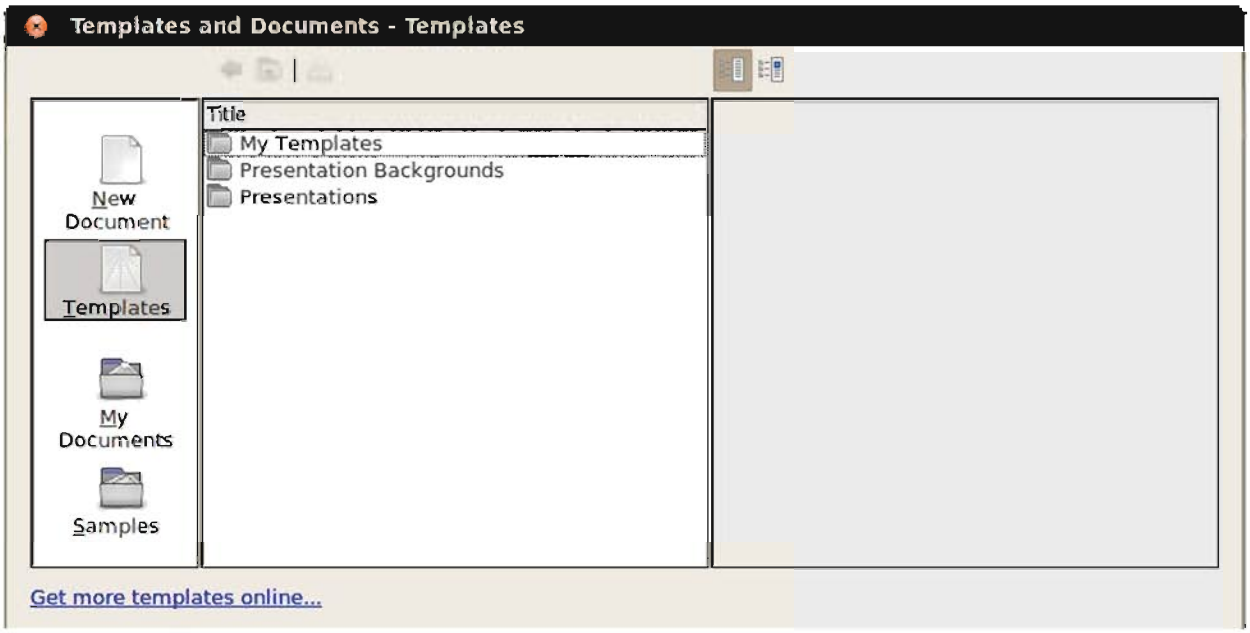

Figure 12.23 : Template Window

How to Create Your Own Templates

Many a times you may need to design a format that you would like to showcase. To create a template from a presentation, perform the steps given As mentioned :

(1) Open the presentation that you want to use for a template. Make the necessary changes, if required.

(2) When it is finalized, select File → Templates → Save from the main menu. The Templates window will be opened (See figure 12.24).

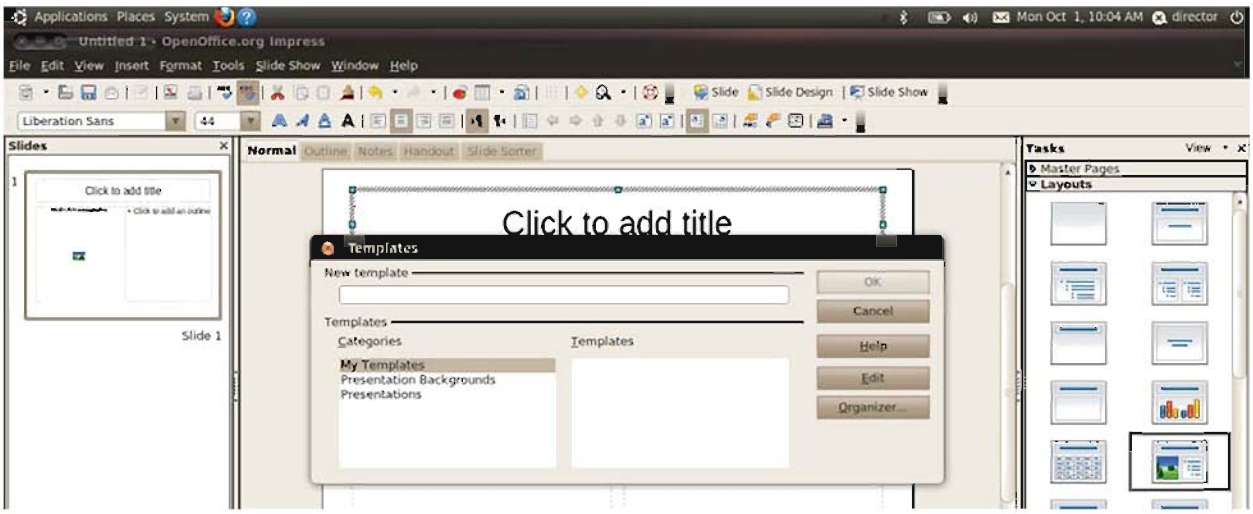

Figure 12.24 : Template Creation

(3) Type a name for the new template, in the New template field.

(4) To select the location for your template, click the folder in which you want to store the template. Generally it is the My Templates folder, unless you have created other folders.

(5) Click OK to save the new template and close the window.

Any presentation of your choice can be set as a default template. If you want, you can reset the default presentation template later. The procedure for setting a presentation as a default template is represented in figure 12.25.

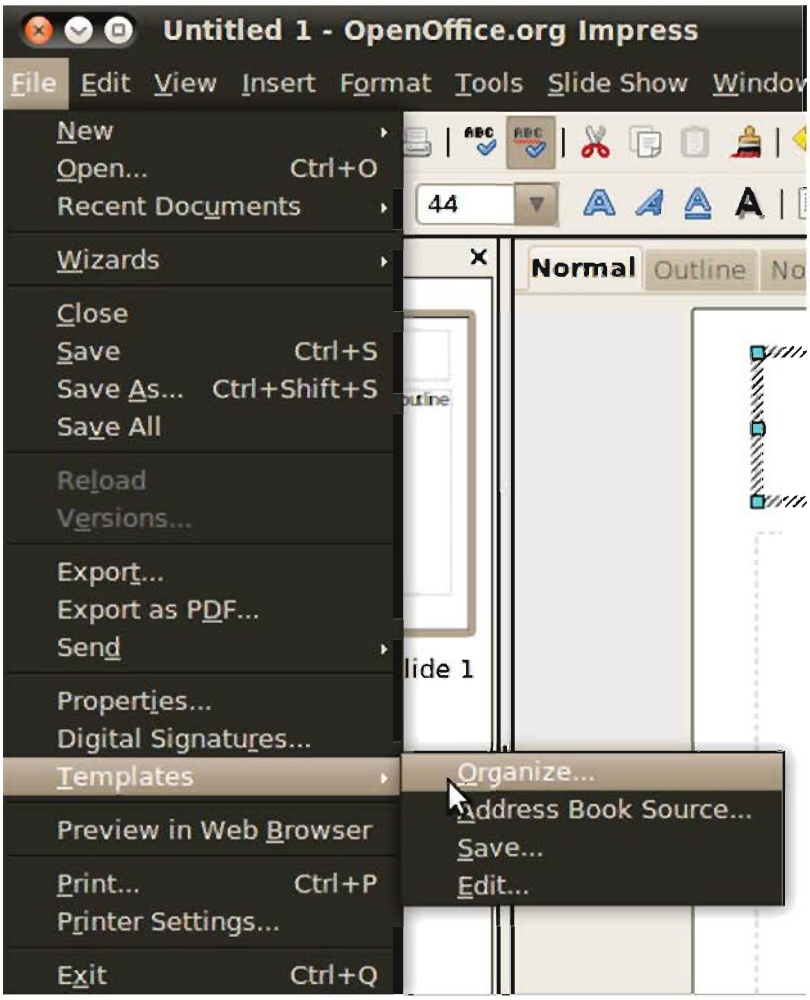

Figure 12.25 : Organize Menu

To open the template management dialog box, select File → Templates → Organize from the main menu as can be seen in figure 12.25.

In the box on the left, double-click the folder containing the template that you want to set as the default. Then select the template. Click the Commands button. From the drop-down menu, select Set As Default Template. The next time that you create a document by choosing File à New the document will be created from this template.

Summary

In this chapter we saw why presentation is required and how to create it using Impress. A presentation can have any combination of colours, objects like graph, table, picture, movie animations to make it attractive. We have discussed different views of the presentation where some additional information like notes can be inserted. We also had a look at how to use the preformatted slide designs and master slides.

EXERCISE

1. What are the advantages of using a presentation ?
2. What objects can be inserted to slides in Impress ?
3. What are the steps to add picture or object to the slide ?
4. How text can be added to header or footer on the slides ?
5. Describe the use of fields available in header and footer.
6. Write steps to create your own template.
7. **Choose the most appropriate option from those given below :**

(1) Which of the following option is not available on Presentation Wizard ?

(a) Empty presentation (b) Form template

(c) Open new presentation (d) Open existing presentation

(2) Which of the following is not a part of main Impress window ?

(a) The slides pane (b) The workspace

(c) The work pane (d) The task pane

(3) Smaller pictures of the slides displayed in slides pane are called

(a) Thumbnail (b) Icon

(c) Tiles (d) Content

(4) Which of the following is not a section of tasks pane ?

(a) Master pages (b) Layouts

(c) Custom View (d) Custom animation

(5) The three speed options available for slide transition are :

(a) Slow, medium, fast (b) Very slow, medium, very fast

(c) Slow, medium, very fast (d) No effect, slow, fast

(6) The default time interval for slide transition is

(a) 1 minute (b) 1 hour

(c) 1 second (d) x second

(7) Which of the following is not one of the view buttons available in workspace ?

(a) Normal view (b) Outline view

(c) Thumbnail view (d) Notes

(8) Which view is generally used for creating, formatting and designing slides ?

(a) Normal view (b) Outline view

(c) Notes (d) Slide Sorter view

(9) Which view is generally used for quick modification of text in the slides ?

(a) Normal view (b) Outline view

(c) Notes (d) Slide Sorter view

(10) Which view is generally used for setting up the page layout for number of slides to be printed per page ?

(a) Normal view (b) Outline view

(c) Handout view (d) Slide Sorter view

(11) Which of the following is not available in options for number of slides to be printed per page ?

(a) 1 (b) 3

(c) 5 (d) 9

(12) Which view is generally used to work with single slide or group of slides ?

(a) Normal view (b) Outline view

(c) Handout view (d) Slide Sorter view

(13) The maximum number of slides per row in slide sorter view can be

(a) 10 (b) 12

(c) 15 (d) 16

(14) In how many different ways a new slide can be added to the presentation ?

(a) 2 (b) 3

(c) 4 (d) 5

(15) There are _____ pre-defined slide masters exists in Impress.

(a) 12 (b) 25

(c) 28 (d) 15

(16) The slide show can be exited at any time during the show by pressing which of the following keys ?

(a) Space bar (b) End Key

(c) Break Key (d) Esc Key

8. State whether the following statements are True or False :

(1) The order of the slides cannot be changed in slides pane

(2) Slide design or layout can be changed for multiple slides simultaneously.

(3) Every slide in a presentation has exactly one slide master.

(4) Animations once applied can be changed but cannot be removed.

(5) Slide names are included in outline view.

(6) The notes added to slides can be seen in during presentation.

(7) A presentation can have multiple slide masters.

(8) A user can create his/her own slide master.

(9) Once pre-defined slide master is selected, the background of slide cannot be changed.

(10) The text added to header is displayed on first slide only.

(11) The text added to footer is displayed on last slide only.

(12) User can create his/her own template and use it in Presentation Wizard.

LABORATORY EXERCISE

1. Create a presentation which gives an overview of science subject. This presentation should contain the following slides :

(a) Title of the subject (use Title only layout)

(b) Index

(c) Introduction of each chapter. (Minimum one slide per chapter should be prepared.)

2. For the presentation created in exercise 1, do the following :
   (a) Rename each slide with chapter name.
   (b) Change the font for the slide title.
   (c) Add a footer that contains the current date and your school name.
   (d) Apply at least one master page to your presentation.
   (e) Hide slide of even chapters and see the effect.
   (f) Start the Slide show and set the option as **Change slides manually.** (Navigator should be visible during a presentation).
3. For the presentation created in exercise 1, do the following :
   (a) Convert the presentation to a pdf file.
   (b) Set the Handout view such that there are 4 slides per page.
4. Create a presentation which demonstrates details of a car launched by any company of your choice. Include following slides :
   (a) Introduction of the company
   (b) List of cars the company sells.
   (c) Introduction of the new car launched.
5. For exercise 4, add following functionalities :
   (a) All models of the car should be displayed in tabular format. (Model name, Basic Price, Average, Capacity)
   (b) Modify the appearance of the table and set animation effect as **Box**.
   (c) Add the image of the each model with its description.
   (d) Change the background colour of each slides of your presentation.
6. Create a presentation about the picnic that you had in your school. Use appropriate template. Add appropriate note to each slide and take the print out of this presentation along with notes.
7. For exercise 6, add following functionalities :
   (a) Set Slide Transition as Wipe Right and set speed slow.
   (b) In a slide transition set advance slide option as automatically after 5 seconds.
8. Create a presentation which represents Gujarat Tourism or of any place where you have visited :
   (a) Add appropriate images. (Select the layout having picture frame).
   (b) Use custom animation
   (c) Set up the slide show.

Introduction to the Internet

Computer is very efficient in performing many applications. However, computers may not have all the resources along with them. For example in an office, we may have more than one computer in every section of the office, but each section has only single printer to print documents. Some computers will not have regional language support to type Hindi and Gujarati fonts. Some computers will not have compact disc writing mechanism. Further, we may need some information from remote computers. Whenever we need such specific support regarding hardware or software, we need to go to the computer which provides the facility. If this happens frequently, then why should not we connect the computers with different capabilities ? Once we connect computers, their facilities are linked and any facility can be accessed from any computer! This is the basic idea behind computer network. Figure 13.1 demonstrates the idea.

Figure 13.1 : Computer Network

By connecting computers into a network, one can use resources of all connected computers from any point of the network. You might have heard about telephone network, electricity network, and railway line network. You might have observed that electricity is produced at a few locations, but transmitted through network of wires to entire state.

Basic Network Types

Different computer networks are categorized according to their scope or scale. Common examples of network types are mentioned below :

LAN - Local Area Network

A Local Area Network (LAN) connects computers and other devices over a relatively short distance. An office building, a school, a laboratory or a home usually contains a single LAN. In addition to operating in a limited space, LANs are also typically owned, controlled, and managed by a single person or organization. To connect computers and other devices LAN use wired media. However, it may use wireless connection. A LAN based on wireless technology is called a WLAN - Wireless Local Area Network.

WAN - Wide Area Network

As the term implies, a Wide Area Network (WAN) spans a large physical distance. The Internet is the largest WAN, spanning the Earth. WAN is a geographically-dispersed collection of LANs. A WAN differs from a LAN in several important ways. Most WANs (like the Internet) are not owned by any one organization but rather exist under collective or distributed ownership and management.

MAN - Metropolitan Area Network

Network spanning a physical area larger than a LAN but smaller than a WAN, such as a city is called Metropolitan Area Network (MAN). A MAN is typically owned and operated by a single entity such as a government body or large corporation (such as Municipal Corporation).

Some other network categories include :

- SAN - Storage Area Network, System Area Network, Server Area Network, or sometimes Small Area Network
- CAN - Campus Area Network, Controller Area Network, or sometimes Cluster Area Network
- PAN - Personal Area Network
- DAN - Desk Area Network

LAN and WAN were the original categories of area networks, while the others have gradually emerged over many years of technology evolution.

Internet

Internet is also a kind of network, which connects different computer networks. Internet is also called super-network or meta-network. This computer network is spread across different parts of the world. The internet combines two basic things, one is computers and another is connections. Together it is known as "**INTER**connections and **NET**work" that is **INTERNET**! Computers in the network can be connected with some wire or may be with a special type of connection facility called wireless connectivity. The popular connections use phone line cables, optical fibers and satellite links. See figure 13.2 that demonstrates a conceptual diagram of the Internet.

Computers (and other devices) connected in a network should behave in some particular manners and obey formal rules. Just like when guests come, we welcome them with 'Namaste' and offer them something! There is no fix formula or compulsion for such behavior, but we insist to follow such manners. Similarly, for smooth operations within the network, all the computers and other devices should behave in 'good manners'! These laws and rules are called protocols. Following the protocols guarantee smooth operations between the connected computers in the network. File Transfer Protocol (FTP), and Transmission Control Protocol (TCP) and Internet Protocol (IP) are the popular protocols to guide internetworking.

Once computers and other devices are connected within a network, we need to identify the computer for getting some resource. If we do not know computer's address within the network, how would we get help (in terms of resources) from it ? To identify every machine in a unique fashion there is a requirement of an address or an identification number.

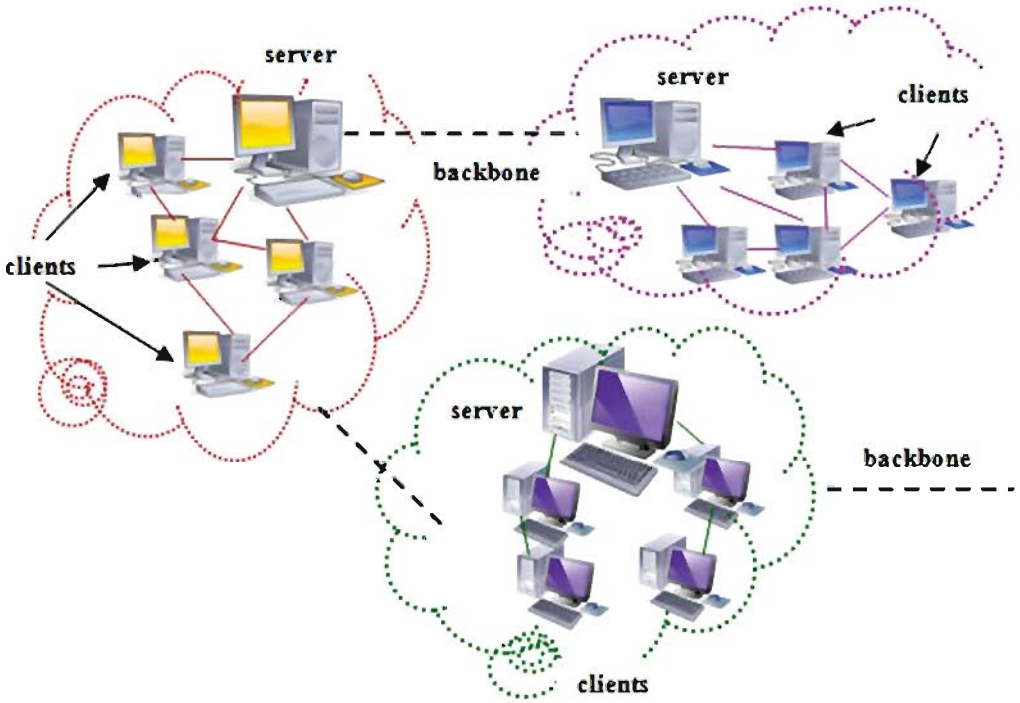

Figure 13.2 : Internet

Just as we have unique telephone numbers in a telephone network, we must have unique identification for every computer in a network. This number is called an IP address. Here IP stands for Internet Protocol, which defines guidelines of such addressing. A typical IP address can be as shown here:

An example IP address → 216.27.61.137

Computer communicates with the help of such IP addresses. This is just like students are given roll numbers in a school for attendance and examination purpose. If one computer knows an (IP) address of another one, they can talk with each other and share resources! (Just like if we know telephone number of one person we can talk) As computers use binary (machine) language to interact, the IP addresses are represented into binary language internally. Usually the IP address takes 32 or 128 bits (binary digits). There are two standards for IP addresses: IP Version 4 (IPv4) and IP Version 6 (IPv6). Majority of computers with IP addresses have an IPv4 address. Some computers have started the new extended version called IPv6 address system. IPv4 uses 32 binary bits to create a unique address on the network. An IPv4 address is expressed by four numbers separated by dots. Each number is the decimal representation for an eight-digit binary number. It is also known as dotted decimal notation. An example IP address and its decomposition are explained in the figure 13.3.

172.	16.	254.	1	Decimal
10101100	00010000	11111110	00000001	Binary
8 bits	8 bits	8 bits	8 bits	32 bits

Figure 13.3 : Decomposition of an IP Address

Components of Internet

Internet connects millions of academic, business and government networks. Hence, Internet is not a proprietary network. Within the Internet there are some large and high speed computers that are used to store information. These computers are called servers. Many computers are connected with these servers. The connected computers with server to seek support are known as clients. Servers are connected, on land as well as across the oceans, through high capacity cables. These cables are known as backbones or information super-highway. Fiber optic cables are very useful for this purpose. Internet also uses routers that help in forwarding the content within the network. A router is a device that forwards data within computer networks.

Wired media such as telephone cables can transfer only analog signals while computer sends digital symbols. Hence, before transferring the data, conversion of the digital data into equivalent analog signal must be done. Similarly, at the receiving end, conversion of the analog data into equivalent digital symbols must be done. This process is known as modulation and demodulation. A device that performs modulation is known as a modulator and a device that performs the inverse operation of modulation (demodulation) is known as a demodulator (sometimes detector or demod). A device that can do both operations is a modem (from "modulator–demodulator"). Now a days, most of the computers have in-built modem. Figure 13.4 shows these components.

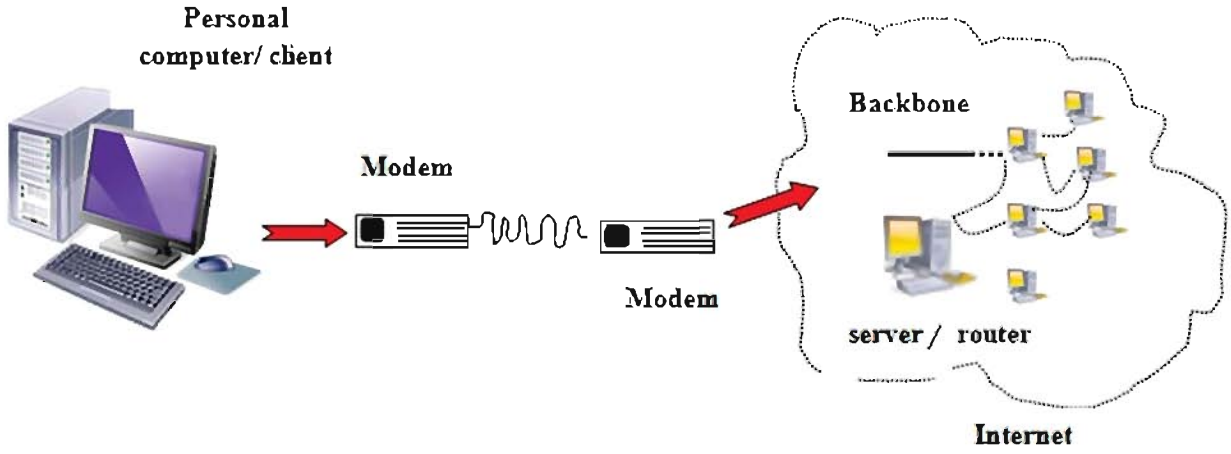

Figure 13.4 : Components of Internet

History of Internet

During late 1960s the Defense Advanced Research Projects Agency (DARPA) started a project to develop a communication protocol for computer network. This project (ARPANET) was funded by US military. The ARPANET was set of US military computers to communicate defense and security related information. This network used to send the data by splitting it into small packets through routers. E-mails were first used on this network. In the middle of 1980's US National Science Foundation (NSF) developed NSFNET which provided the basic platform for communication service used for modern networking. Gradually, different protocols were invented and many organizations came into existence that dealt with internetworking. Some examples of other networks are 'Because Its Time NETwork' (BITNET) and 'Computer Science Network' (CSNET). Facilities called gateways were developed to connect BITNET with other networks, which allowed exchange of electronic mail, particularly for e-mail discussion lists. The ARPANET was dismantled in 1990.

Internet Connectivity

The ways to connect Internet include traditional dial-up access, leased lines and wireless. These methods are described in detail in this section.

Dial-up Connection

The most basic type of Internet connection available from an Internet Service Provider (ISP) is called dial-up connection. An Internet service provider (ISP) is an organization that provides access to the Internet. In India, BSNL (Bharat Sanchar Nigam Limited) is the largest service provider. The dial-up connection is made through a modem that uses a telephone line to connect the Internet. The modem must dial the telephone number provided by the ISP every time it wants to connect to the Internet, hence it is identified as the dial-up connection. When you start accessing the dial up connection, the modem converts the digital information onto the analog signals. These analog signals use the telephone lines to pass the converted signals. At receiving end, these signals are converted into digital information. Figure 13.5 represents a typical model of an inbuilt modem.

Figure 13.5 : Modem

As dial-up connection uses ordinary telephone lines, the data rates are limited and the quality of the connection is not always good. Nowadays very few people use this type of connection. Further, it makes the telephone line busy till you use the internet. Since most of the computers have the facility of in-built modem (See figure 13.5), this solution is easy but not economical as it is slow and increases the telephone bill. Dial-up connections operate at speeds of 14.4Kbit, 28.8Kbit, or 56Kbit. Figure 13.6 demonstrates working of dial-up connection.

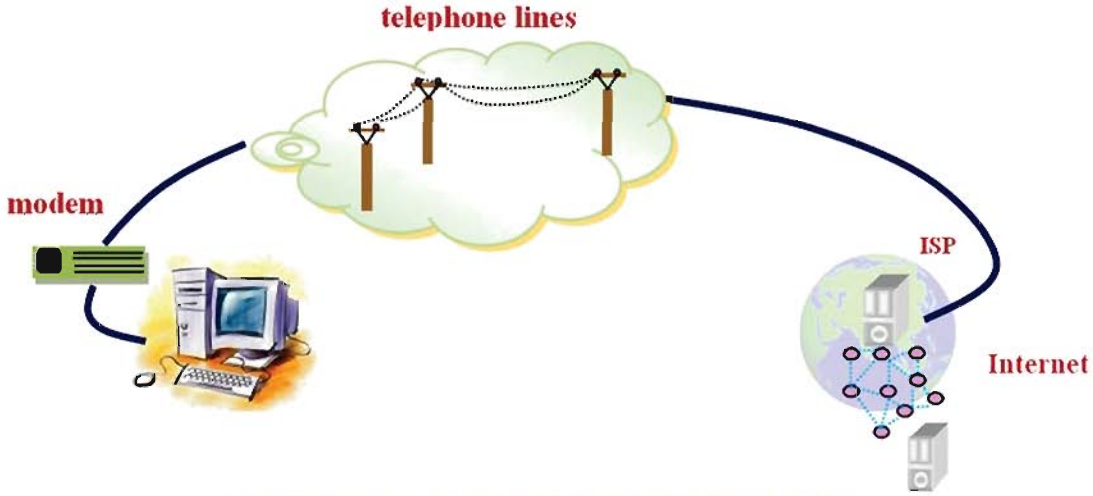

Figure 13.6 : Working of Dialup Connection

ISDN - Dial-up Connection

The second type of internet connection is through an ISDN (Integrated Services Digital Network). This connection is also called dial-up connection. However, this is a high-speed connection that requires special (digital) type of dedicated telephone line. As the digital information to analog and vice-versa conversion is not necessary, the connection speed is improved. Since this connection type uses dedicated lines, it is costly. Further, a special ISDN line as well as ISDN modem must be installed at the customer's location. The ISDN dial-up connection operates at speeds of 128Kbit and 256Kbit. This connection can only be provided by landline phone companies and therefore is being phased out.

Direct Internet Access (Leased line) Connection

Leased line is a "permanent connection" generally used by larger institutions, corporate and government agencies. It involves establishing your own Internet connection and paying to have a direct full time line with the network, which makes such connection faster as well as costly. It is personalized and dedicated line of connection which is always on.

Broadband Connection

Broadband is a type of Internet access in which a single medium or wire can carry several channels or communication paths at once. It is also a high-speed Internet connection. Both these features make surfing the Web very efficient. Such connection can transmit both television signals and Internet data at the same time. Broadband telephone connections like Digital Subscriber Line (DSL) are able to transmit multi-media information (such as voice and data) over the same line at the same time. Further, the broadband connections are always on. You need not have to dial-up specifically. Generally a broadband connection accesses the Internet either by a cable modem

provided through their local cable company or a DSL modem and DSL telephone line provided by their local telephone service provider.

There are two popular types of cables; coaxial and fiber optic. The first one is commonly used by cable TV and that is common for data communications. Fiber optic cables are strands of a special optical material as thin as a human hair that carries multi-media information over long distances. In fiber optic cables data are carried as light signals. Figure 13.7 shows a cross section of the cable.

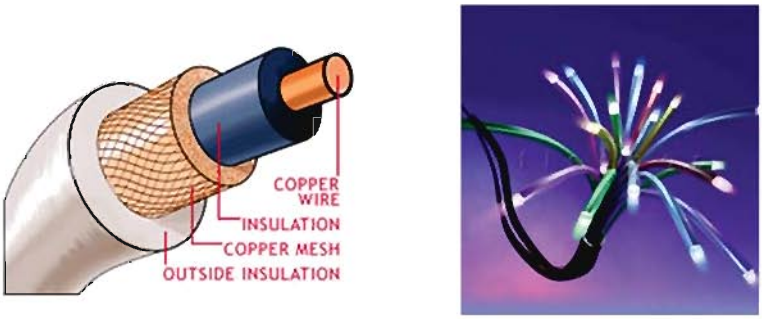

Figure 13.7 : Co-axial Cable and Optical Fiber

Wireless Internet Connection

Wireless broadband or Wireless Internet Connections operates on radio frequency instead of cable networks. Wireless Internet can be accessed from anywhere as long as you are within a network coverage area. It also provides an always-on connection type. It is typically more expensive and mainly available in metropolitan areas or big institutes.

Figure 13.8 : Data Card

For mobile Internet connection to personal computers or laptops, 3G USB data cards are used. 3G USB Data cards are meant for accessing Internet at anytime and from anywhere. It provides simple and instant internet access at mega fast speeds up to 7 Mbps. 3G data cards make us free from messy wires and fixed line requirement. Among different types of the 3G data card (also referred as Dongle or connect cards), an USB data and is very popular. Companies such as BSNL, MTNL, Airtel, Vodaphone, Tata etc. offers this facility. Figure 13.8 illustrates a typical data card.

Such data cards are easy to set up and automatically detected by a personal computer or a laptop in which it is connected. Due to the support like roaming, easy set up, flexibility and attractive tariff plans, the data cards have become very popular.

Satellite Connection

Internet over Satellite (IoS) allows a user to access the Internet via a geostationary satellite that moves around the earth. Because of the large distances between home and satellite, signals must travel from the earth up to the satellite and back again, IoS is slightly slower than high-speed terrestrial connections over copper or fiber optic cables. Typical Internet over Satellite connection speeds (standard IP services) average around 492 to 512 Kbps.

Applications of Internet

Internet has changed the way people do their business and also the way in which they use computers and communicate. Internet allows high degree of flexibility in working hours and location. The Internet can be accessed from any location across the world using basic computer facilities. It can reach many people simultaneously and act as a basic platform for business operations and communications. People can operate their business, get some information, communicate with one or more persons and entertain themselves. The popular applications of Internet are e-mail (communication of digital multi-media messages), information sharing on the World Wide Web (WWW or Web), and searching for information. Following sections provide brief introduction to some of these applications.

Domain Name System

A domain name is an identification string that defines a territory of administrative autonomy, authority, or control on the Internet. Domain names are formed by the rules and procedures of the Domain Name System (DNS). Domain names are based on either type of organization or geographical area. The popular domains are listed in table 13.1.

Domain	Description
com	Commercial organizations, however can be used for any website
gov	Government organizations
org	Non commercial organizations
edu	Educational organizations
info	For information
mil	Military organizations
net	Large networks
coop	Co-operatives organizations
int	International organizations
aero	Air transport organizations
Domain based on geographical region	
in	India
au	Australia
us	United status
jp	Japan
pk	Pakistan
ca	Canada
hk	Hongkong
np	Nepal
cn	China
uk	United kingdom

Table 13.1 : Popular Domain Names

World Wide Web

World Wide Web is an advanced information retrieval system on Internet platform. It is also known as WWW, W3 or Web in short. The Web was invented in 1991 by Tim Berners-Lee, while consulting at CERN (European Organization for Nuclear Research) in Switzerland. The Web contains multimedia as well as streaming (radio/television using internet) information on variety of topics. Web is therefore called a virtual store of information. A web page is a document on the Web. Web consists of such plenty of pages. A page on the Web can be read using a computer program called web browser. A web browser is a software application for retrieving, presenting, and traversing information resources on the Web. Mozilla Firefox, Internet explorer, Google chrome, Netscape navigator are some of the most popular browsers. There is a Uniform Resource Locator (URL) that references a web resource (page) uniquely. You can go directly to a web page if you know its URL. URL is occasionally referred as URI – Uniform Resource Identifier.

The web pages are stored on a special computer called, web servers. Any organization can set up a web server and have collection of related web pages. The collection of web pages is known as website. The starting point (generally the first page) is called a home page of the web site.

There are some websites that offer services to perform business transactions, money transactions, news services, etc. Such websites are known as portals. Portals are entry points to some resources or services. Generally portals are specific to a particular industry or institution. However, the portals can also be general like yahoo.

To jump from one page to another page, Web links called hyperlinks are given behind the text. That is, information on the web page is connected by hyperlinks. A reader sees on the screen a document with sensitive parts of text representing the links. These links are followed by clicking (or selecting) on them. The text behind which the link is hidden is called an anchor text. The Hyper Text Mark-up Language (HTML) is a language to create or edit the web pages and to manage links within the documents.

There are some predefined methods for computers to follow links and transfer documents. These methods are known as Hyper Text Transfer Protocol (HTTP) and File Transfer Protocol (FTP). Management of the Web becomes easy using these protocols. Figure 13.9 represents a conceptual view of the Web.

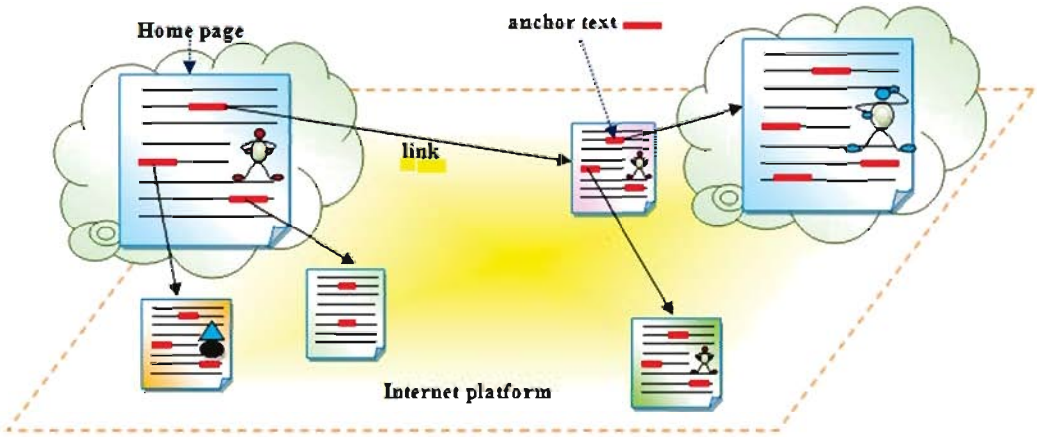

Figure 13.9 : World Wide Web

Web Browser

To see content of the Web on the computer screen, we require an application that retrieves and presents the content on demand. As discussed earlier, we identify this application as a Web browser or simply a browser. Browsers generally work with Web; however, with private network one can use such applications. The first web browser was invented in 1990 by Sir Tim Berners-Lee. It was called 'WorldWideWeb' (without any spaces) and was later renamed Nexus.

The main objective of a browser is to retrieve and to present content of the Web to user. Browser identifies resources from URI (uniform resource identifier). The most commonly used kind of URI starts with *http:* and identifies a resource to be retrieved over the Hypertext Transfer Protocol (HTTP). Many times you may see *https:*. URL's beginning with HTTPS indicates that the connection between client and browser is encrypted for security purpose.

Some Preliminary Characteristics of Browsers

- A browser must be able to deal with multimedia information, as the Web content may include text, numbers, characters, symbols, audio, video and animation.
- A browser must be user friendly by providing good options on the screen. These options include space to provide URI/URL, file operations like save file, navigation operation such as back and forward, other buttons such as refresh, book mark, help etc. Later we will explore such operations.

About FireFox

Figure 13.10 : Getting Firefox Browser

Firefox is an open source browser available for free from the Mozilla Foundation, http://www.mozilla.org/. The code of the FireFox is freely available to view and modify. While sharing such software, the major expectations are to wide spread the application as well as to invite comments/ modifications on the applications. Figure 13.10 shows the main (home) page of the Mozilla community where Firefox browser is available for free download.

As shown in the figure 13.10, you may download the appropriate Firefox Browser by clicking the link given on the page. This website also provides tutorials on the web browsing using Firefox, emailing using a tool called Thunderbird and Mozilla mail, and other Mozilla products.

Once you install the browser, you can use it. Your browser may be available under Application menu or placed as a shortcut icon at the top margin of the desktop screen. You may be lead to the start page if you are using the browser first time. See figure 13.11.

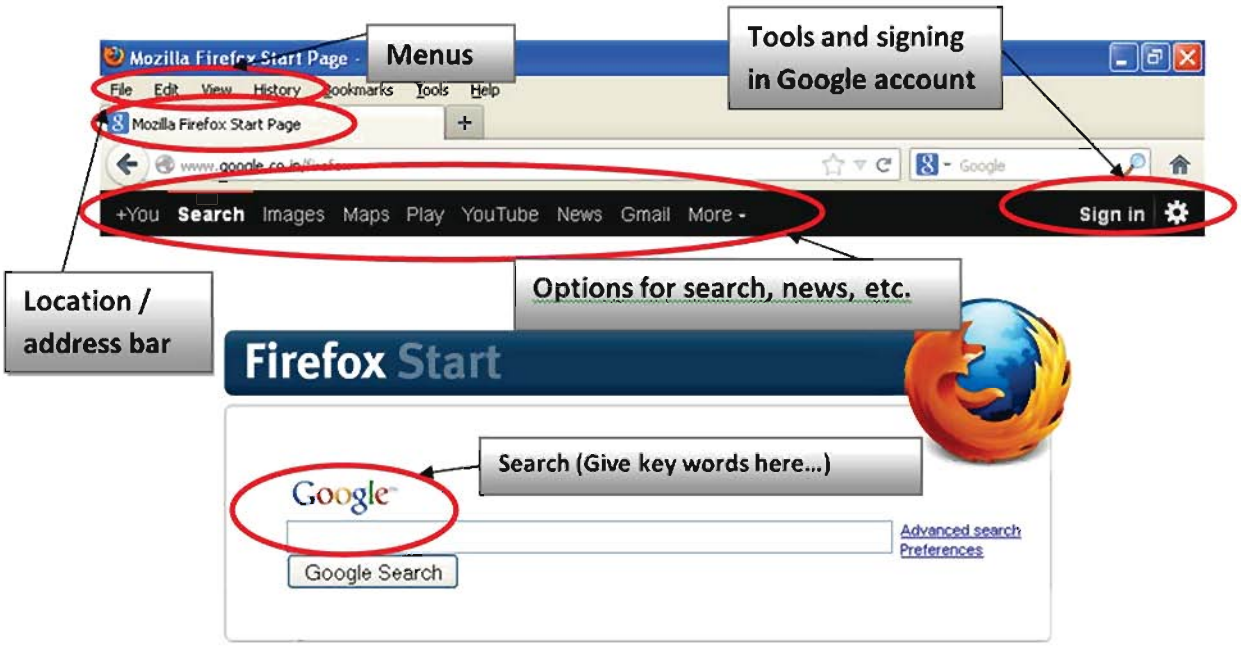

Figure 13.11 : Firefox Browser Start Page on Windows OS

Every time you open the browser, you need to enter the address such as 'Google.com' or 'www.google.com'. You may set this page as a default page by doing the following :

(1) Select *Tools*, *Option* and *General*.

(2) Give home page address, which will become your default page. When you start browser, this page will come.

From the screen shown in figure 13.11, within the Google search option you may write keywords to search. For example, if you want to find out about *Schools in Gujarat*, type these words in the Google search bar, and you will see results as shown in figure 13.12. It is possible that when

you try this the output may be different from what is exactly visible in figure 13.12. The screen in figure 13.11 was taken on Windows OS while the screen in figure 13.12 is taken on Ubuntu 10.04. Observe that the look and feel of the browser on both the operating systems is exactly same.

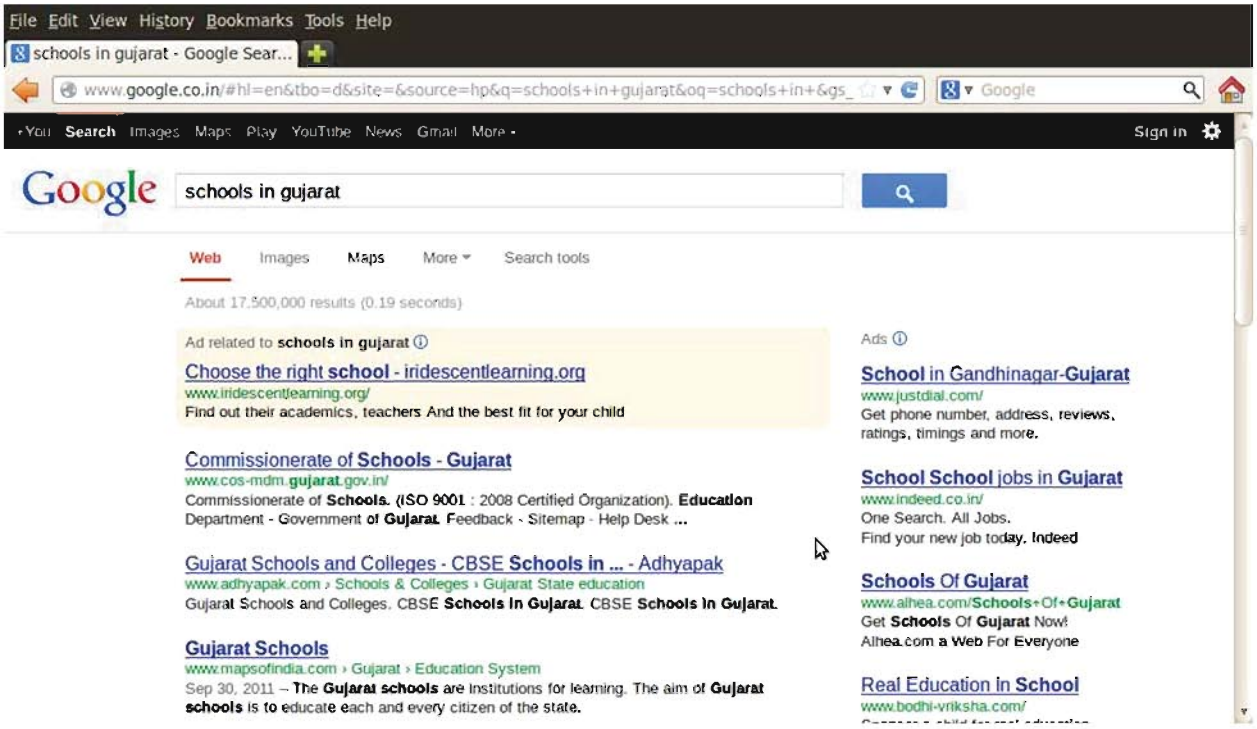

Figure 13.12 : Searching Using Firefox

About Search Engine

The web provides mechanism to store and link different web pages connected with hyperlinks. Only providing connections between the documents through the hyperlinks and mechanism to follow the links cannot make the Web really useful. The actual power of the Web comes from ability to search the content automatically by following the links. It is really difficult to search particular information from the ocean of the Web. Just like you have content list (or index list) in your book to search for a topic from the book, the Web also prepares index lists which allow searching based on key words provided. The computer program that does this job is called a search engine. Google [www.google.co.in], Yahoo [www.yahoo.com], Ask [www.ask.com], Scirus [www.scirus.com] and AltaVista [www.altavista.com] are some such popular search engines.

Many search engines accept keywords from users and extend the keywords to many more search engines at back end. This type of search engine is called a meta-search engine. Some examples of meta-search engines are as follows :

- iBoogie [www.iboogie.tv/]
- InfoGrid [www.infogrid.com]
- Dogpile [www.dogpile.com
- Ithaki [www.ithaki.net/indexu.htm]

About Google

Google is an America (Mountain View, California) based multi-national corporation founded by Larry Page and Sergey Brin from the Stanford University. The objective of the corporation is to provide services and products related to the Internet.

The name '***Google***' originated from the word "Googol". The word '*Googol*' is used for the mathematician's term for the number one followed by one hundred zeros. To significantly represent the large pool of information on the Internet/Web platform this word was decided to be used. Gradually the word is evolved as 'Google'.

Google can also be used to search in Hindi and other regional language such as Gujarati. See the screens shown in figure 13.13, figure 13.14, and figure 13.15.

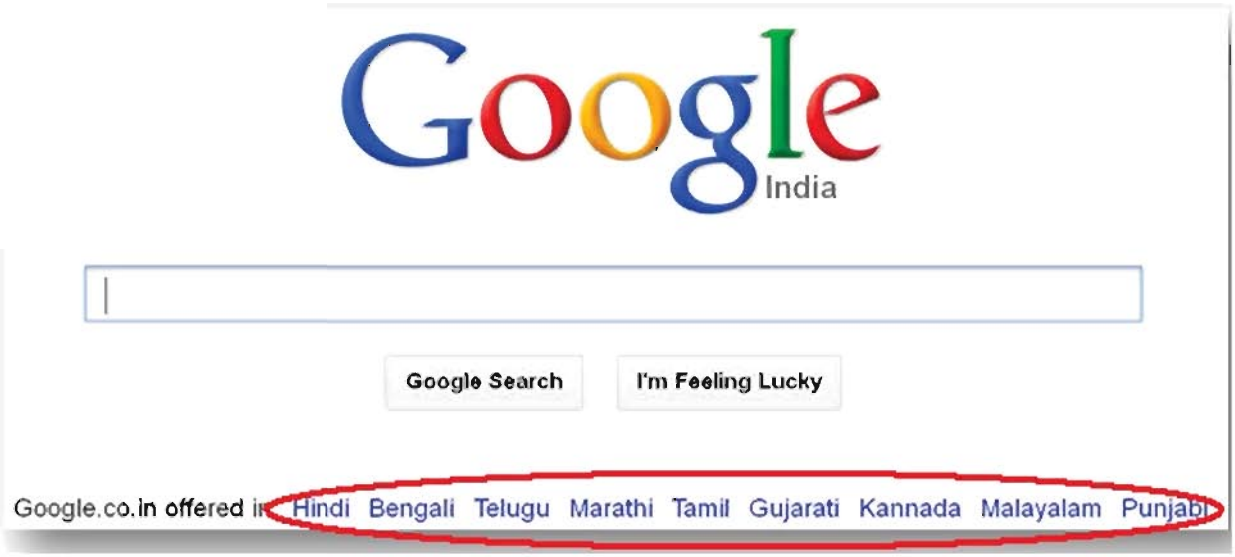

Figure 13.13 : Multilingual Support From Google

If you select Hindi, you can see screen as shown in figure 13.14.

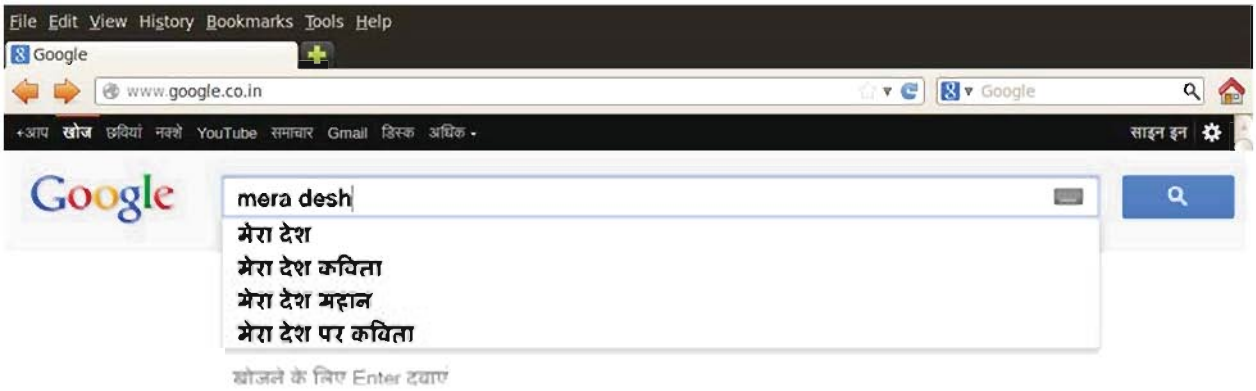

Figure 13.14 : Searching in Hindi

Google can also translate from one language to another language[http://translate.google.com/] Figure 13.15 shows features like virtual keyboard as well as phonetic typing are provided for ease of using.

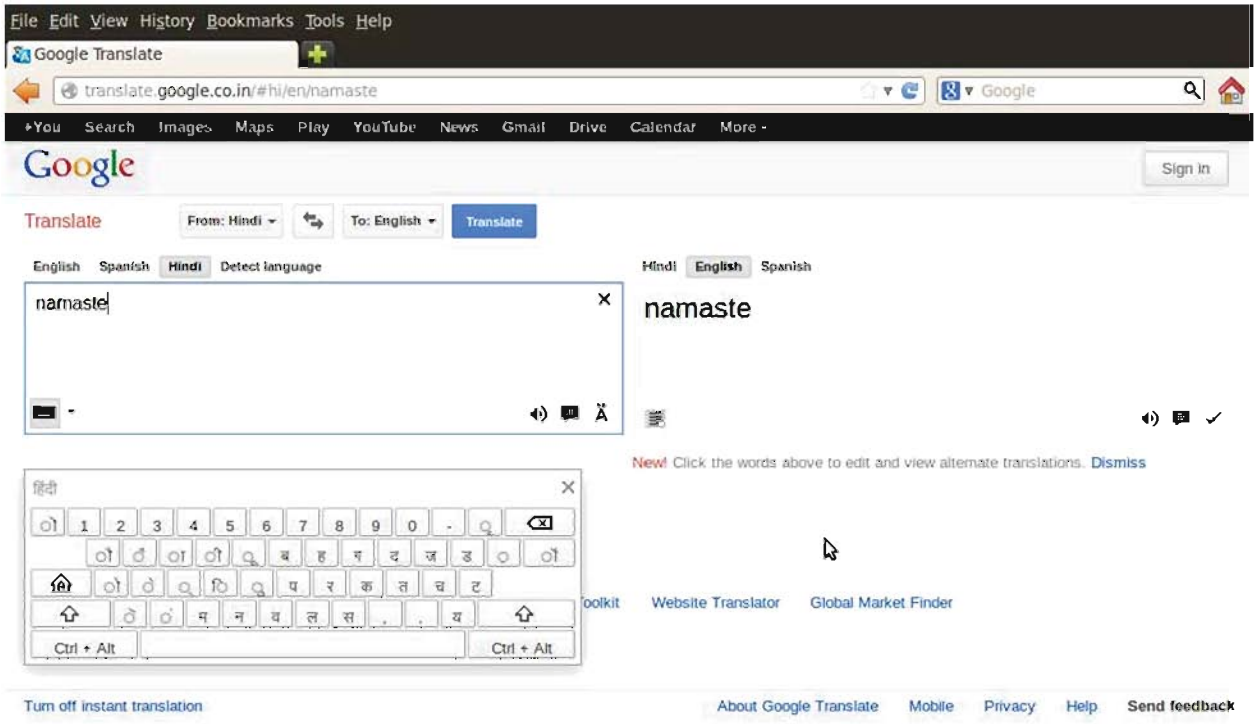

Figure 13.15 : Google Translation

Google also provides advance search facility to provide specific query and narrow or filter the search results. The following screen shows how to use advance search facility step by step.

The screen presented in figure 13.16 shows a basic (initial) screen for searching using Google. The screen illustrates the initial process of searching of *seven wonders of the world*.

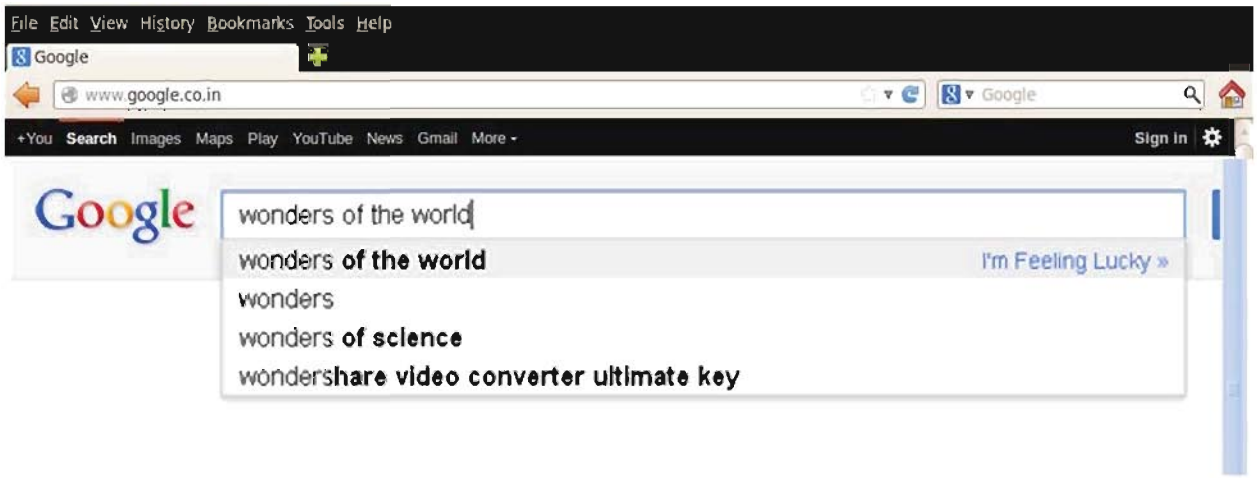

Figure 13.16 : Initial screen of advanced search

When you click on Google search button after providing query, you will see the result as shown in figure 13.17. You may see world wide information on the seven wonders.

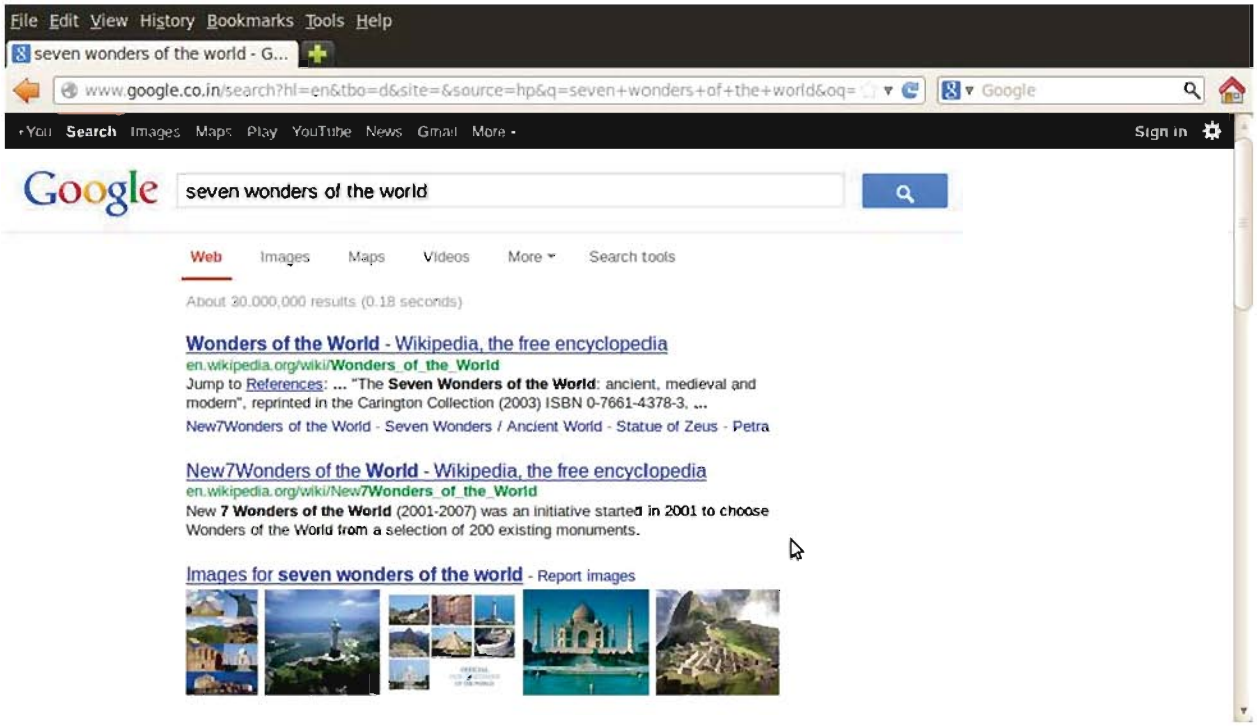

Figure 13.17 : Basic Search Results Prior to Advanced Search

If we would like to revise the search in such a way that it presents wonders of the world only from India. We may refine our search using advanced search facility. The link for advanced search is provided at the end of searched result page as shown in figure 13.18.

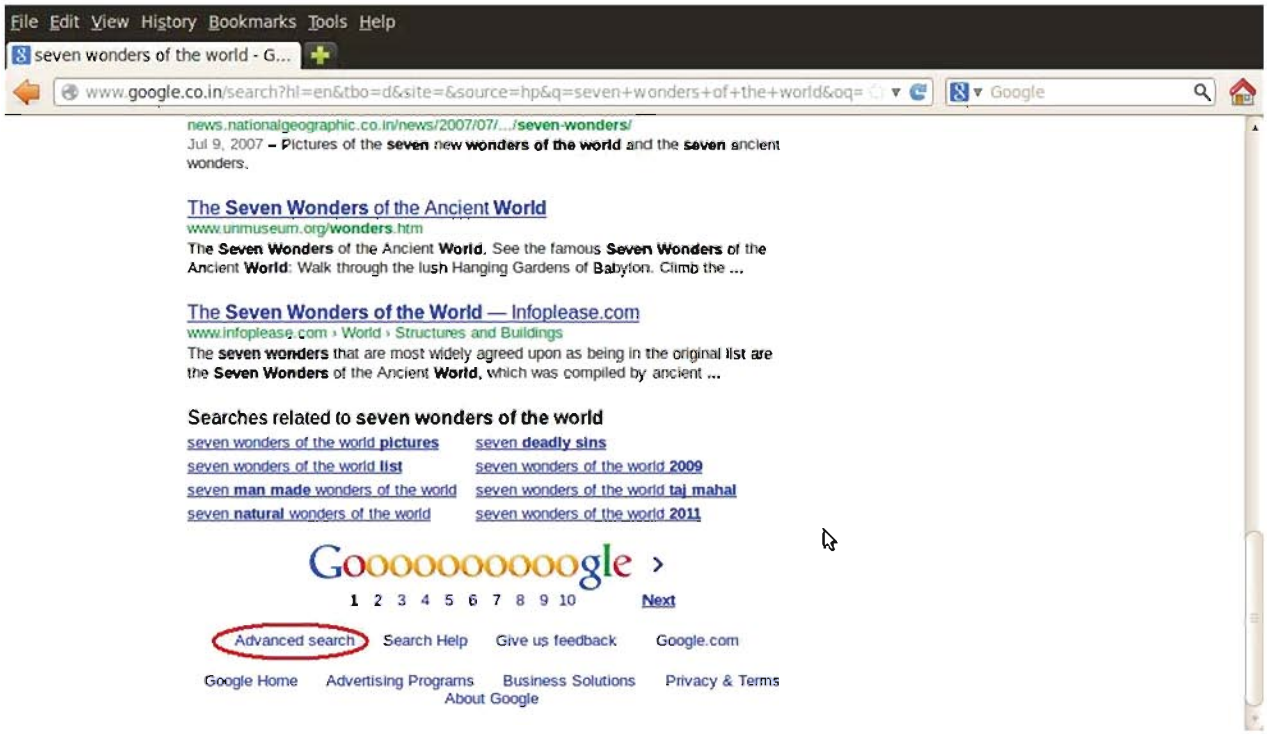

Figure 13.18 : Link to Advanced Search

When you click on the advanced search facility (see the arrow in the figure 13.18 above), you will further see screens presented in figure 13.19 and figure 13.20. The first figure 13.19 shows options about which words you want exactly. Here we have restricted our search to provide results that contain the exact word 'India' only.

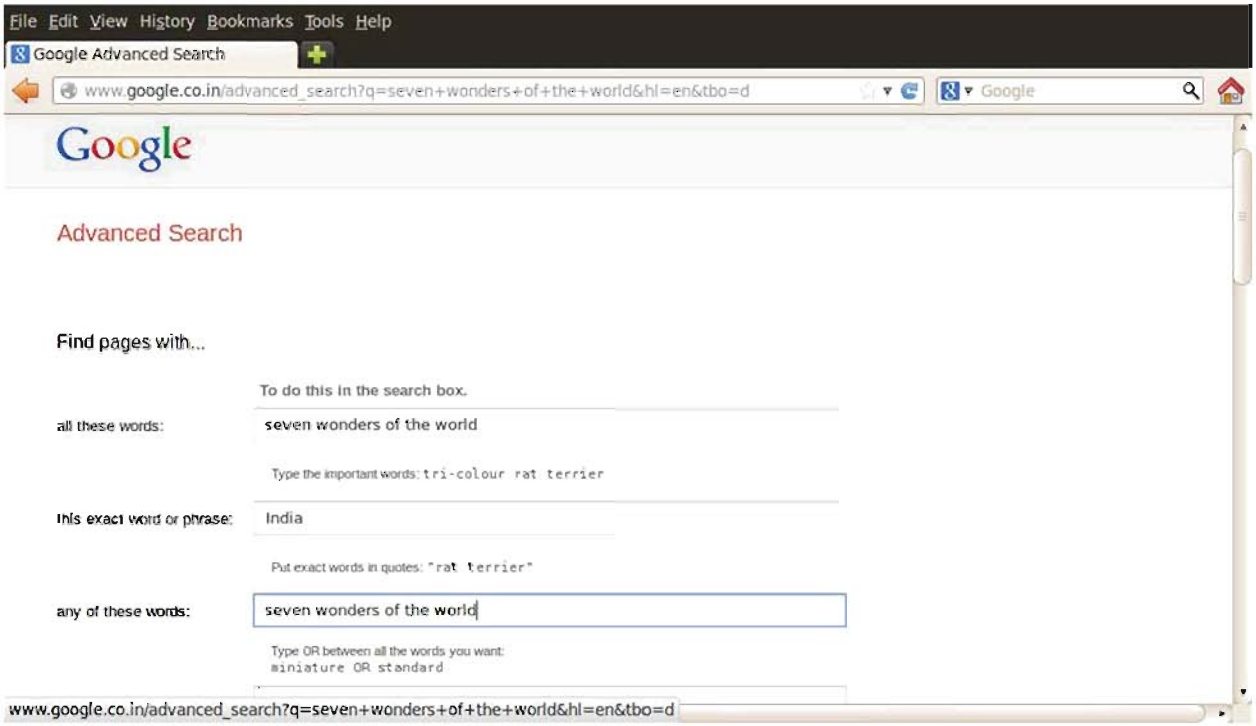

Figure 13.19 : Advanced Search Options

The second part of the advanced search is shown in figure 13.20. Here you can narrow the search results by providing options of language (such as Hindi, English etc.) region, data of update, free to use material etc.

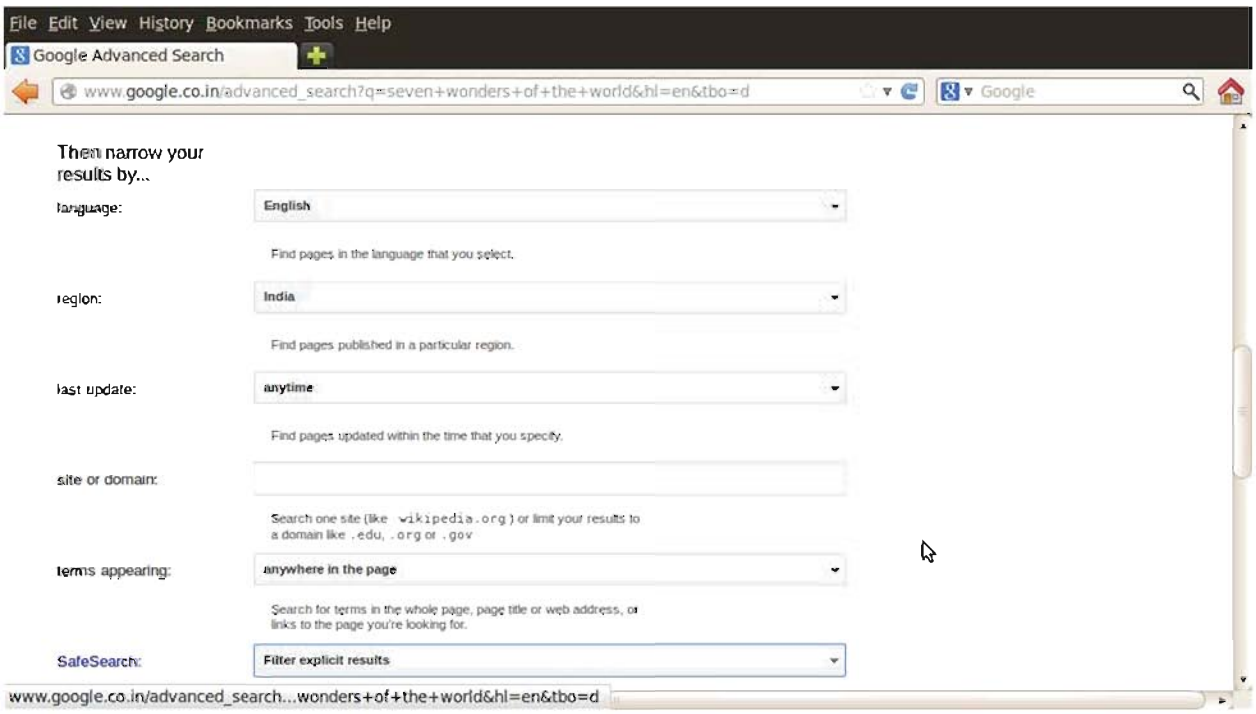

Figure 13.20 : More Advanced Search Options

After providing required choices, when the advanced search button is clicked, the Google provides following results. See screen illustrated in figure 13.21. You may notice the appearance of the world India in the presented result.

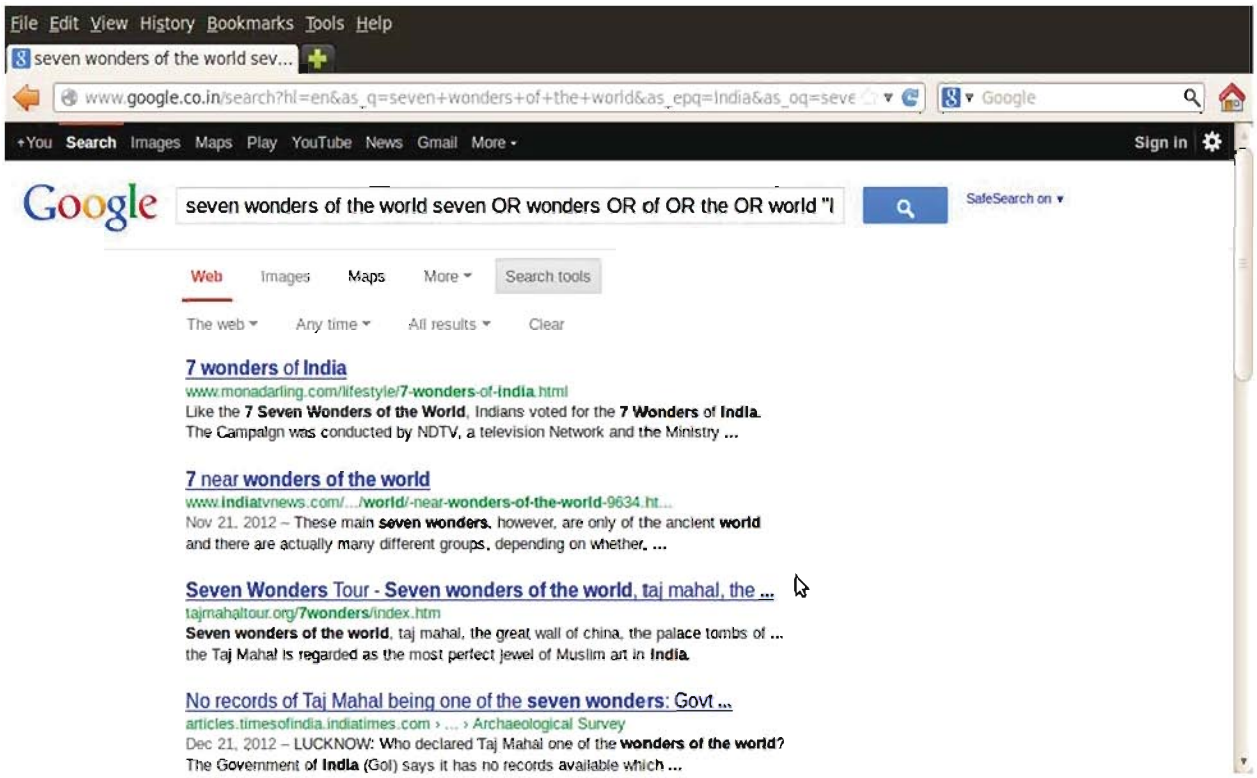

Figure 13.21 : Advanced Search Result

The major facilities offered by the Google are search, e-mail, cloud computing, and advertising. The company's mission statement from the outset is "to organize the world's information and make it universally accessible and useful".

Google also offers virtual locations to store and access documents. Google docs and Google drives are the example of such utilities. Google drive is a place where one can create, share, collaborate, search and keep all the documents. These documents are accessed from any location through any valid devices. Google docs refer to the facility that enable editing for Google documents, spreadsheets, presentations, drawings, and forms. These are online documents that live in the cloud and provide real-time collaboration features. Google drive is a step ahead and offer accessing all the files, including both Google docs and local files from a web browser or any device where Google drive is installed. One can store and use

all type of files free with initial space of 5GB storage. You need to have connection with Google cloud. For this, you may download appropriate Google cloud connect software from Google's official site. Google has also extended its services for the services mentioned herewith :

- Android mobile operating system;
- Picasa photo organization;
- Google 'Earth' the 3D view of the earth technology;
- Google chrome OS browser-only operating system for specialized notebooks called Chromebooks
- Google Driverless car that uses Google Street View with artificial intelligence technology.

Try to explore Web for more interesting information on Google's driverless car! Besides searching and sharing information on the Web, people would like to carry out many jobs using the Web platform. Some of the examples are sharing personal ideas and information; making groups and interact. For this purpose, variety of other applications have been designed; such as blogs, collaborative media (such as wikis) and social network platform. The following section introduces these concepts.

Blogs

The name blog is derived from 'Web Log'. From 'Web Log' it became 'We Blog' and from that gradually it became 'Blog'. A blog is a type of website written usually by a single person on any topic. The structure and purpose of a blog is just like a personal diary, where a person can share his idea about current affairs and their experiences along with multimedia supportive information. A blog is frequent, chronological publications of personal thoughts. Blog content is normally written in the way that content about the latest activity remains on the top. The older entries may be available on the same page or may be stored in separate folders called archives. To interact with its reader, a blog may accept comments from the readers. You may read blog on the Web and pass comments to the author of the blog. There are free blog services that help to set up blogs in friendly manner.

To keep track of your favourite blog (or website) you may use a technique called RSS, which is an abbreviated form of Really Simple Syndication. This technique provides news to the user when the interested blog or website is updated. Many people call this facility as news feed. This is just like subscribing a magazine, whenever new issue comes, automatically the subscriber will be given information about it.

Collaborative Platforms

Whenever we read something on the Web on some topic, we would like to add something from our side. There are collaborative platforms / websites available that facilitate users to read,

add, modify, or delete its content via a web browser using a simplified mark-up language or a rich-text editor. You might have used wikis. Wikis are such collaborative media. Since such website content is created in collaborative fashion, it is known as the simplest online database for everybody. So far you have just read the content from wikis (or Wikipedia), now you can try to edit it by providing related content. Since it is not created by an authentic publishing agency or an author, but by plenty of people, wikis are not considered as trustworthy resources.

Besides blogs and collaborative platform, Internet can also be used as platform for social networking. These applications are not only used for fun and social interactions, but also for applications such as e-learning, marketing and product promotion.

Other Services

Internet can be used as platform for variety of services that may facilitate our industry and social applications. Some services like Internet Protocol Telephony may be used for business applications as well as personal communications. IP Telephony or Voice over IP (VoIP) is the technology that enables voice (telephone) calls to be carried over IP network (over LAN or Internet) instead of public switched telephone network (PSTN). Other examples of such generic common services that are supported by the Internet platform include remote access of computers, file transfers, chatting, video conferencing, and sending messages to mobile.

You might be interested in some frequently used terminology in this area. Table 13.2 gives a quick review of the terminology (sorted alphabetically).

Term	Description
Bandwidth	The amount of data that can be transmitted across a network or Cable. The bandwidth is usually measured in bits per second (bps) for Internet access.
Broad band	Broadband is a high-speed Internet access that offers an always-on connection, which is called in contrast to a dial-up connection using analog modem.
Browser	A browser or web browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web.
Client	The connected computers with large computers (in terms of memory and processing power) called server to seek support are known as **clients**.

Data card	Data card is a card which contains data or which is used as plug and play instrument for data operations (transfer, transformation, input, and output). The popular use of data card is to get connectivity using 3G network.
Domain name	A domain name is an identification string that defines a realm of administrative autonomy, authority, or control on the Internet. Domain names are formed by the rules and procedures of the Domain Name System (DNS).
DSL	Digital subscriber line, which used to transmit digital data over wires of local telephone network.
E-mail	Electronic mail, commonly known as e-mail, is a method of exchanging digital messages from an author to one or more recipients using Internet.
FTP	File Transfer Protocol (FTP) is a standard network protocol used to transfer files from one point to another over Internet.
Home page	The starting point (generally the first page) of a website is called a **home page** of the web site.
HTML	The Hyper Text Mark-up Language (HTML) is a language to create and edit the web pages and to manage links within the documents.
HTTP	**Hyper Text Transfer Protocol** (HTTP) provides methods for computers to follow links on a web page.
IP address	An Internet Protocol address (IP address) is an identification number assigned to each computer participating in a computer network.
ISDN	Integrated Services Digital Network is a high speed Internet connection through special dedicated lines that transmit multi-media information simultaneously.
ISP	Internet Service Provider (ISP) is an organization that provides access to the Internet.
Modem	A device that can do modulation as well as demodulation is known as a modem ("modulator–demodulator").
Portal	Portals are some websites that offer services to perform business transactions, money transactions, news services, etc.

Protocol	Protocol defines formal rules and guidelines for smooth behaviors of commuters and other devices in a network.
Router	A router is a device that forwards data within computer networks.
Search engine	Search engine is a computer search program that allows searching information from the Web based on key words provided by users.
Server	Servers are large and high speed computers that are used to store information in a network.
URL/URI	A uniform resource locator (URL) is the key entity that references a resource (web page). It is also known as Uniform Resource Identifier (URI).
Web	World Wide Web is an advanced information retrieval system on Internet platform. It is also known as WWW, W3 or Web in short.
Web page	A web page is a document on the Web.
Website	Collection of web pages is known as website.

Table 13.2 : Quick Teview of Some Internet Terminology

Technology like Internet has great impact on human lives. There are many advantages of the Internet. Use of the Internet increases degree of accessibility of resources. The resources can be accessed anytime, anywhere and by anybody. Use of the Internet makes the system transparent and efficient. Many areas such as business, research, learning, and entertainment are benefited by the Internet applications. However, the increasing use the Internet changes the social behavior, habits and abilities of people and making them more and more dependable on the machine.

Summary

In this chapter we learnt that to share resources such as hardware and software, computers need to interact with one another. We learnt introductory concepts of computer network along with their types such as Local Area Network (LAN) and Wide Area Network (WAN). We also learnt about the Internet, which is considered as the great pool of information. We discussed some components of Internet like server, client, router, modem, protocols and IP addresses. Further we learnt how to get connectivity through different mechanism such as dial up connections, ISDN connections, Satellite connections as well as wireless connections. Finally we learnt about searching mechanism that facilitates search based on users' information such as keywords provided by them.

EXERCISE

1. What are the benefits of network ?
2. What is Internet ?
3. Define an IP address. What are the two different versions of an IP address ?
4. Define the terms :
   (a) Client (b) Server
   (c) Information superhighway (d) Modem
   (e) IP address (f) Web site
   (g) Hyperlink (h) Search engine
5. Define the World Wide Web (Web). Also explain how Internet and Web are different.
6. What is browser ? Give an example.
7. What is search engine ? Give two examples of a typical search engines.
8. Why wikis are known as collaborative platform ?
9. What is blog ?
10. Give an example of each :
    (a) Collaborative platform (b) Social networking site
11. Write a short note on search engine. Also list some popular search engines.
12. **Choose the most appropriate option from those given below :**

    (1) Which is the most suitable description of the Internet ?
    (a) Network of hardware (b) Network of networks
    (c) Network of servers (d) Network of software

    (2) Which item among the followings can be shared by a network ?
    (a) Information (b) Hardware
    (c) Software (d) All of these

    (3) The computers connected with each other should behave in some particular manners and rules. What these rules / manners are called ?
    (a) Programs (b) Protocols
    (c) Server (d) Routers

    (4) Which of the following protocol guarantees smooth operations between the connected computers in the network ?
    (a) FTP (b) TCP
    (c) IP (d) All of these

    (5) Which of the following is required to identify a machine uniquely in a network ?
    (a) A connection (b) An IP addresses
    (c) A Server (d) All of these

(6) What are IPv4 and IPv6 ?

(a) Protocol standards (b) Network address

(c) IP address (d) Servers

(7) Which of the following entities help in forwarding documents by suggesting right path to be followed within a computer network ?

(a) Router (b) Amplifiers

(c) Path finder (d) Any of these

(8) Which of the following devices can perform modulation ?

(a) Calculator (b) Demodulator

(c) Modulator (d) Decalculator

(9) Which of the following devices can perform de-modulation ?

(a) Calculator (b) Demodulator

(c) Modulator (d) Decalculator

(10) Which of the following devices can perform modulation as well as de-modulation ?

(a) Calculator (b) Demodulator

(c) Modem (d) Decalculator

(11) Which facility is used to read a web page ?

(a) Web browser (b) Web site

(c) Web page (d) Any of the above

(12) Which of the following is an example of a search engine ?

(a) Mozilla Firefox (b) Google

(c) Internet explorer (d) All of the above

(13) Which utility identifies a web page uniquely ?

(a) Unified Resource Licence (b) Uniform Resource Locator (URL)

(c) Unified Random Location (d) Any of these

(14) What is the collective name of a set of web pages ?

(a) Website (b) Web pages

(c) Home page (d) Server page

(15) Among the following which tool can be used to edit the web pages and manage links within the documents ?

(a) Highly Transferable and Manageable Links

(b) Hyper Text Mark-up Language

(c) Highly Temporary and Manageable Links

(d) Hyper Text Mark-up Link

(16) Which of the following is a type of website written usually by a single person on any topic like personal diary ?

(a) Website (b) Homepage

(c) Blog (d) Index page

(17) Which of the followings is name of the websites/platforms that allow users to contribute (to edit the content) ?

(a) Collaborative (b) Co-operative

(c) Contributed (d) Distributed

PRACTICAL EXERCISE

1. Use search engine of your choice and explore information about the tourist places in India. Collect information such as history of the place, how to reach, pictures and weather information about the places.
2. Refine your search using suitable advanced search options.
3. Prepare a presentation about the places worth seeing in India from the information collected as directed in the previous question.
4. Use a meta search engine of your choice to search information about a topic of your choice.
5. Search in Gujarati language about Shri Mahatma Gandhi.
6. Search and read a blog that discusses everyday science topics for students.
7. Go to a collaborative platform (such as Wikipedia) and verify different facilities it provides.

Email and Security in Internet

In the previous chapter we have discussed about what is Internet and how to utilize the web browser efficiently. Here we will discuss electronic mails. Electronic mail, more commonly known as E-mail, has become an essential mode of communication now a days. Initially the idea was to send text based messages from one computer to another. In its current form E-mail features have developed by leaps and bounds. The data that can be transferred now is not only limited to text. It is now possible to send pictures, voice, documents, programs and animated movies. In this chapter we will see how email works and what are its advantages and disadvantages. We will also have a look at the security aspects of Internet.

E-mail

E-mail refers to the transmission of messages across computer networks in an electronic form. That is why it is known as an electronic mail. It is a method of exchanging digital messages from sender to one or more recipients using Internet.

Parameter	Traditional mail	E-mail
Address	14, Star Colony Rampur	sweety@yahoo.com
Time	Two to three days	Instantly, within seconds/minutes
Content	Tailor made, any content including physical material in parcel.	Address book, templates and readymade draft messages are available. We can also use multimedia information along with the mail.
Cost	Cost for delivery, stamps, paper and cover as well as cost for shipping large parcels.	Free with internet facility and computer.
Access	Can be accessed through limited specific places	Can be accessed from anywhere.

Table 14.1 : Traditional Mail v/s E-mail

E-mail is the most widely used service on the Internet. Earlier emails used to deliver only text messages. At present variety of information can be sent through mail such as audio, video, animation, graph and text. These types of information are collectively known as multimedia information. The main advantage of such electronic mail facility is a digital multimedia message can be transferred through computer network in faster way across the world. In comparison with the regular post mails, the e-mail facility is faster and cost effective. E-mail is so efficient in comparison with the regular mail; people identify the regular mail as 'snail' mail! This scenario demonstrated in table 14.1 that gives comparison of traditional (snail) mail with e-mail.

The email enables improvement of business communications, efficient access of information and cuts down costs and time. The benefits provided by the e-mail are described in table 14.2.

It is fast	Most messages are delivered within short time, say in seconds or minutes.
It is global	Messages are delivered across the whole world without any geographic limits. Further, you may use variety of devices that have Internet facility (say mobile and iPod) to use e-mail facility.
It is cost effective	There are many email service providers such as Gmail, hotmail and yahoo. They provide free services for e-mail. You need to have a computer with internet facility.
It is personal	Like telephone, informal messages can be shared through e-mails.
It is more productive	E-mail is packaged with facilities such as calendar, address book, and templates for instant messaging for convenience and productivity.
It provides opportunity to think and edit your content	You may write message, check spelling/grammar and change content of the message. You may think twice before you send the mail.
It provides documentation of communication	Sent and received messages can be stored in computer for future use, or print outs can be taken.
Reaching many people at once	It is possible to send one message to many recipients at once, or you can send a personal message to an individual.
It provides gateway to many web services	You can sign up using your email id on different social network platform such as face book and twitter. You may also use some services available on the Internet using the email address.

Table 14.2 : Benefits of E-mail

There are some disadvantages and limitations of the e-mail facility. The first one is it requires computers and Internet facility in the computer. You may receive unnecessary mail called junk mail or spam mail (also referred as *spam*). The examples are unwanted advertisement, call for fake seminar, mail for asking favour from unknown person, or sometimes harmful programs (virus) that disturbs your computer programs and data.

There are some basic requirements that one must fulfil prior to utilising the email facility. As stated earlier, the basic requirements are both sender and receiver computers must have the internet facility and e-mail addresses. If the receiver is not working on computer at the right moment, when he opens computer and connects to the Internet, he can see the received mail in his 'mailbox'. A typical e-mail address *sweety@yahoo.com* is given below in figure 14.1.

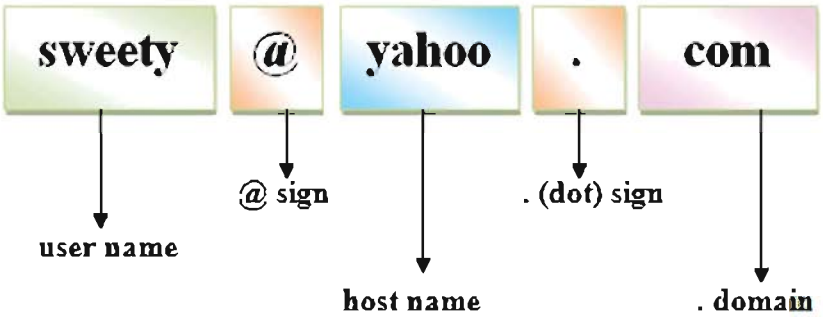

Figure 14.1 : E-mail Address and its Components

An e-mail always begins with user name. A user name is to be chosen by the user. It can be any name that the user likes, provided that the same name is not registered with the email service provider. For example, sweety is very common name. If the name is already registered, you may choose another name like sweety_97. Then the e-mail address is sweety_97@yahoo.com. The user name is followed by '@' sign. It separates the user name from rest of the address. After the '@' sign, name of e-mail service provider (also called host name) appears. In the above mentioned e-mail address 'yahoo' is the host name. An email address can be up to 255 characters long and can include the characters such as lowercase letters from a to z; digits and the characters ".","_" and "-" (full stop, underscore, and hyphen). After the decimal point in an e-mail address, a domain name appears. As mentioned in previous chapter we have different type of domain names. This states that we may also have an email account with the name sweety@yahoo.co.in or sweety@glsict.org or sweety@glsict.ac.in and so on.

Structure of E-mail

Once you have the facility of internet you can opt for mail service provider (such as yahoo, hotmail, Gmail, indiatimes, rediffmail, etc.), select your username (with password) to register your mail address with the mail service provider. The process of registration is often called 'sign up'. The sign up

process needs to be carried out only once. Afterwards whenever you use e-mail, you may 'sign in'. Typical email has basic parts such as header that contains information regarding sender's address; recipient address; subject of the mail; attachments if any; and message body. The typical operations for an e-mail include Send, Compose, Reply, and Forward mail. Optionally one may attach one or more files with limited size along with the mail. These files can be any multimedia electronic file such as documents, music and image files.

Working of E–mail

Once an e-mail is sent from a computer, it goes to the sender's network and then to the Internet. From the Internet it reaches the receiver's network and server using the facility of routers (to find appropriate path). Further, it has to pass through security features like firewall, if any. An e-mail encountering a firewall may be tested for spam (unwanted mails) and virus filters before it is allowed to pass through the firewall. From receiver's network it is sent to the receiver's computer. Figure 14.2 represents the conceptual path that normally an e-mail can follow.

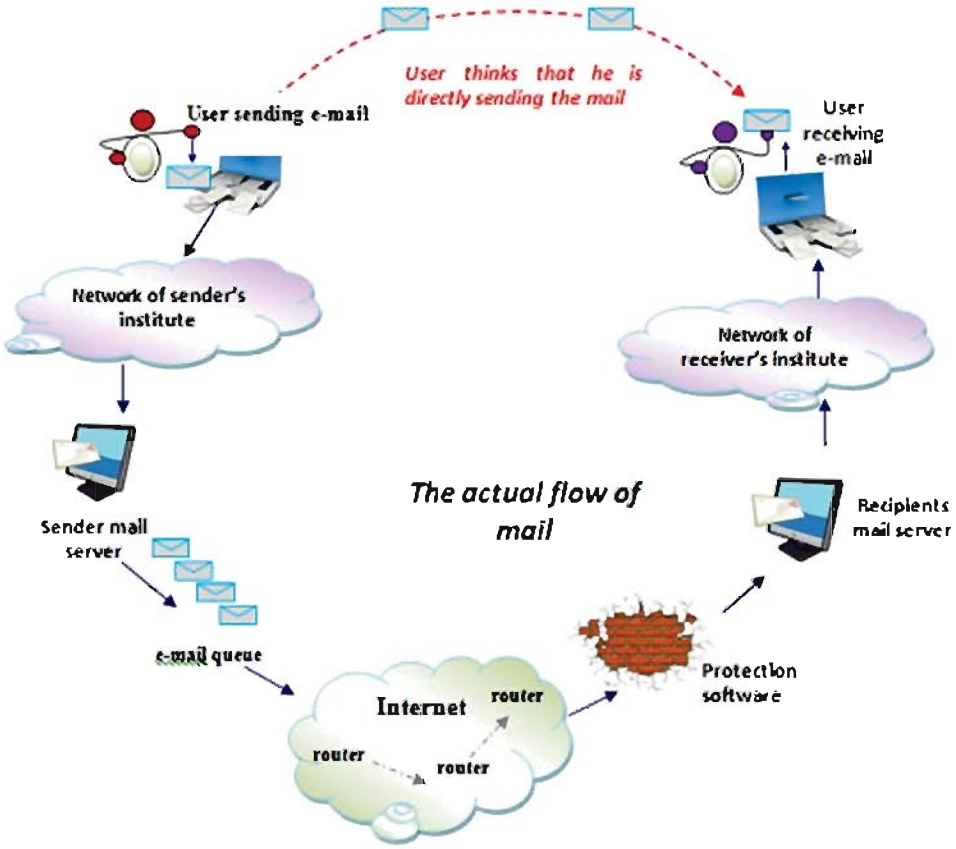

Figure 14.2 : Working of E-mail

Creating an E-mail Account

Everybody today from a young person to an old person has an email account. Let us also try to create an email account on Gmail. To create a mail account in Google, you need to perform following steps. Go to Google and click on Gmail as shown in the figure 14.3.

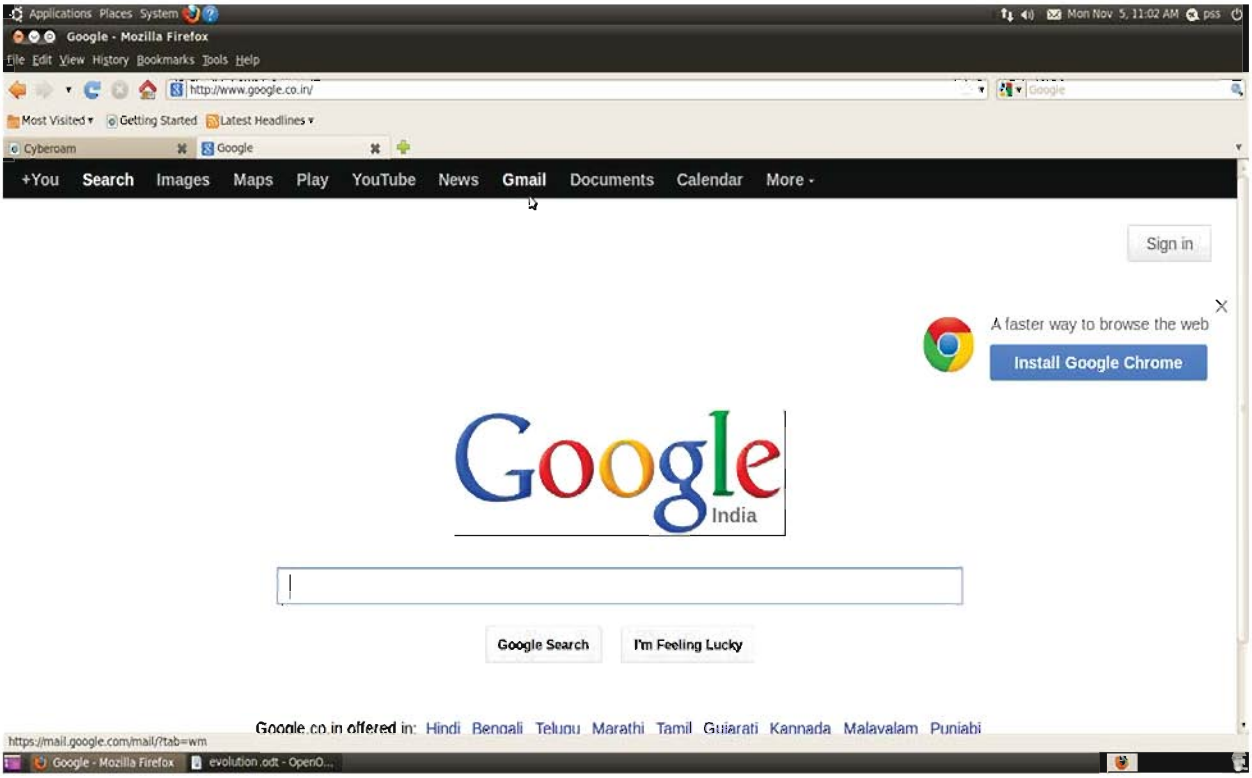

Figure 14.3 : Selecting Gmail to Create an Account

You will see screen as shown in the figure 14.4. Click on create new account.

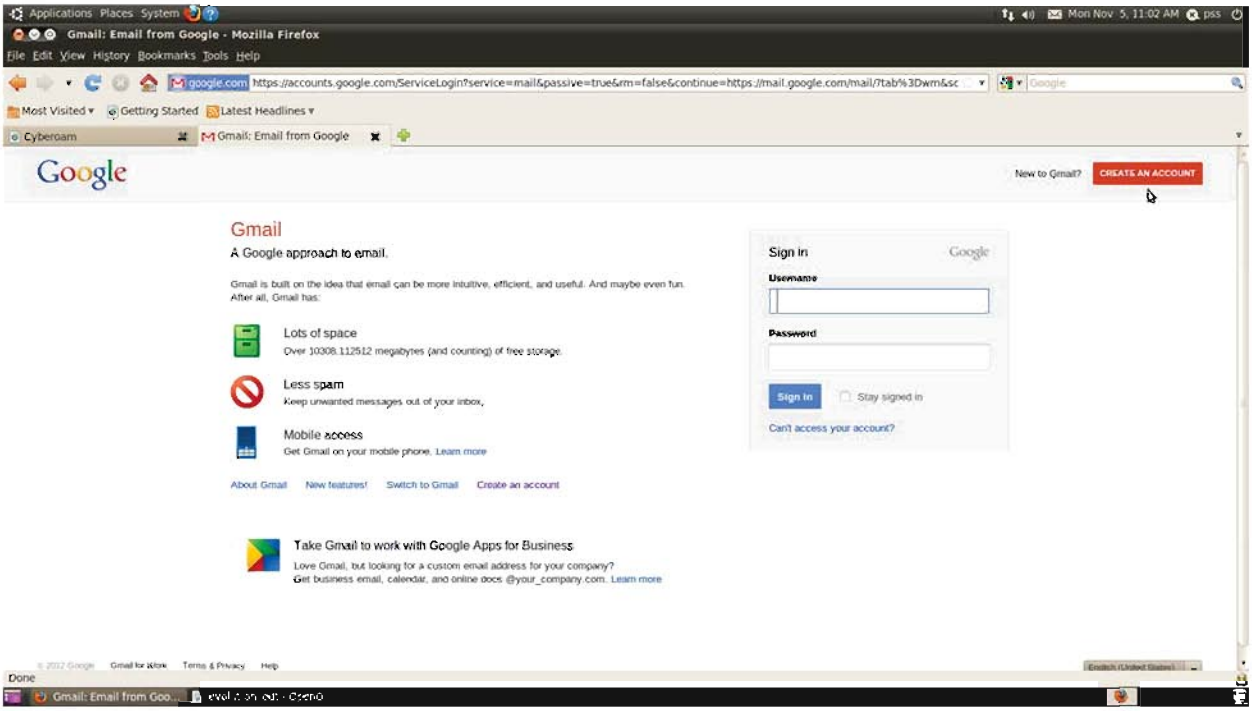

Figure 14.4 : Create a New Account

Clicking on creating new account will show the following screen. See figure 14.5.

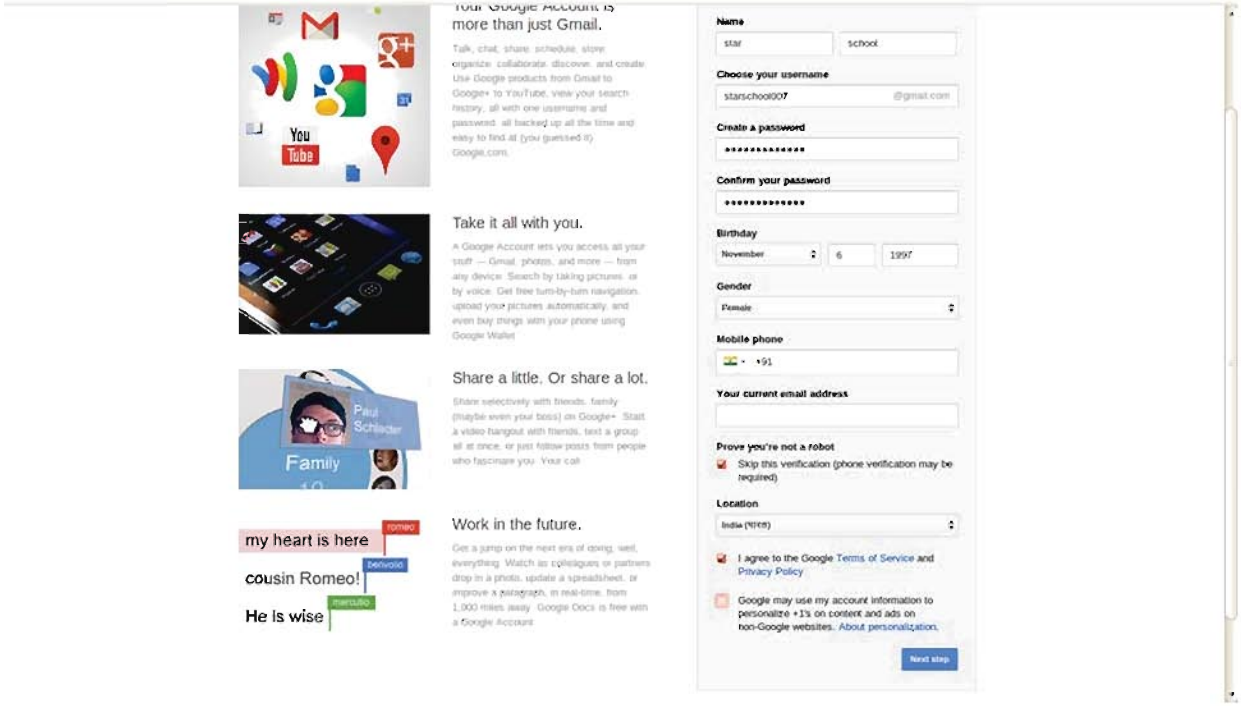

Figure 14.5 : Providing Necessary Information For the Account

You need to provide necessary information as demonstrated in the above figure 14.5. Google confirms the information by sending you either voice mail or SMS on the mobile number provided. See screens shown in figure 14.6 an figure 14.7.

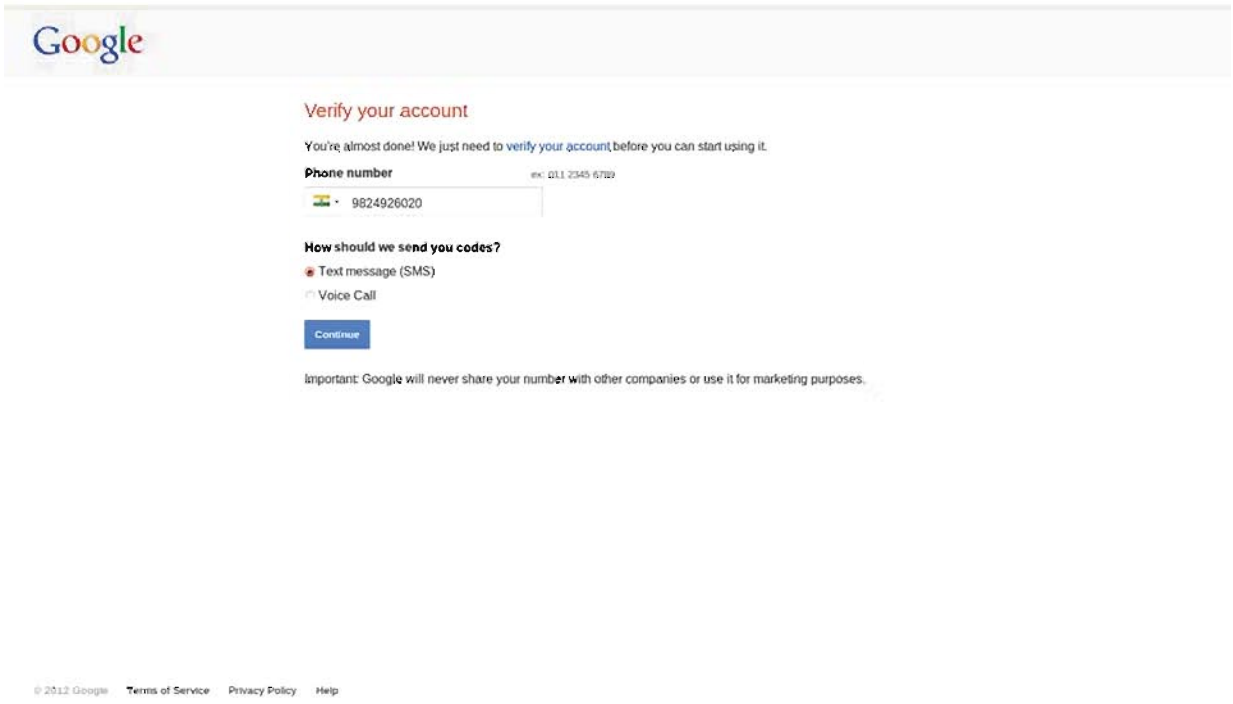

Figure 14.6 : Providing Mobile Number

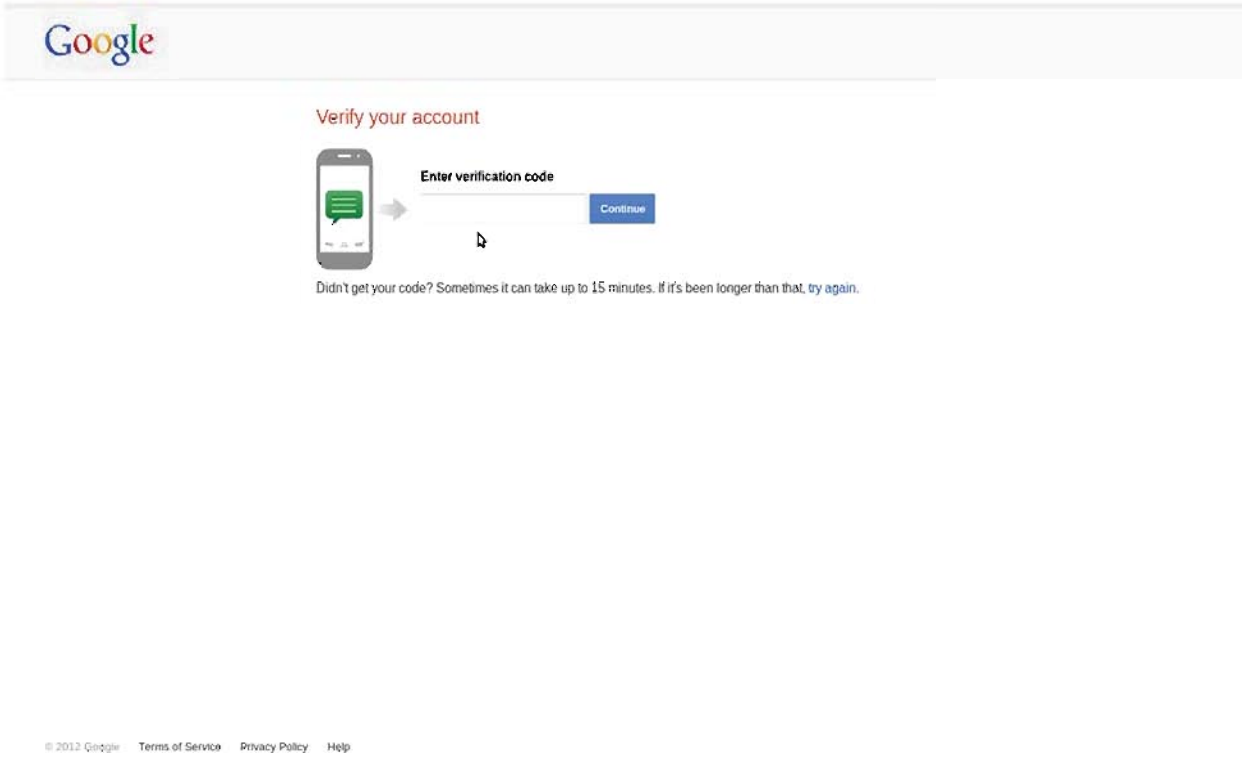

Figure 14.7 : Providing Verification Code

You need to give verification code which is provided. After that you will receive a welcome message as shown in figure 14.8.

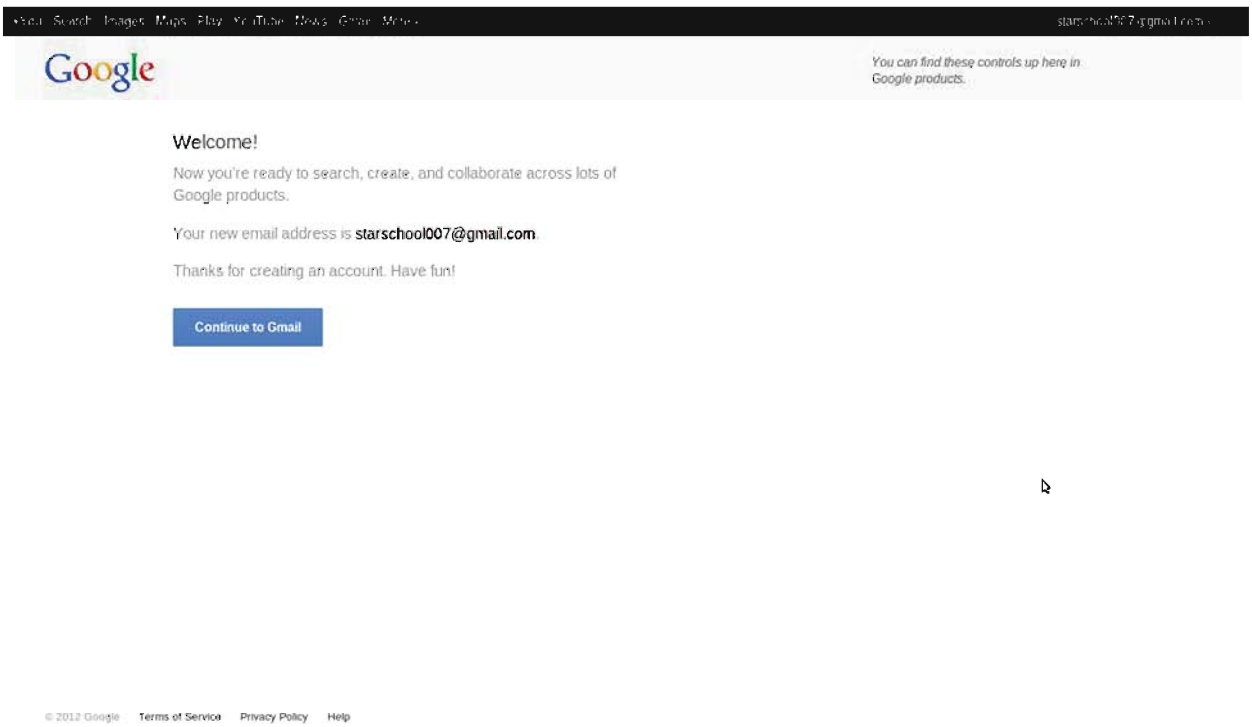

Figure 14.8 : Welcome Message From Google

You may choose to continue. You will see screen as shown in figure 14.9.

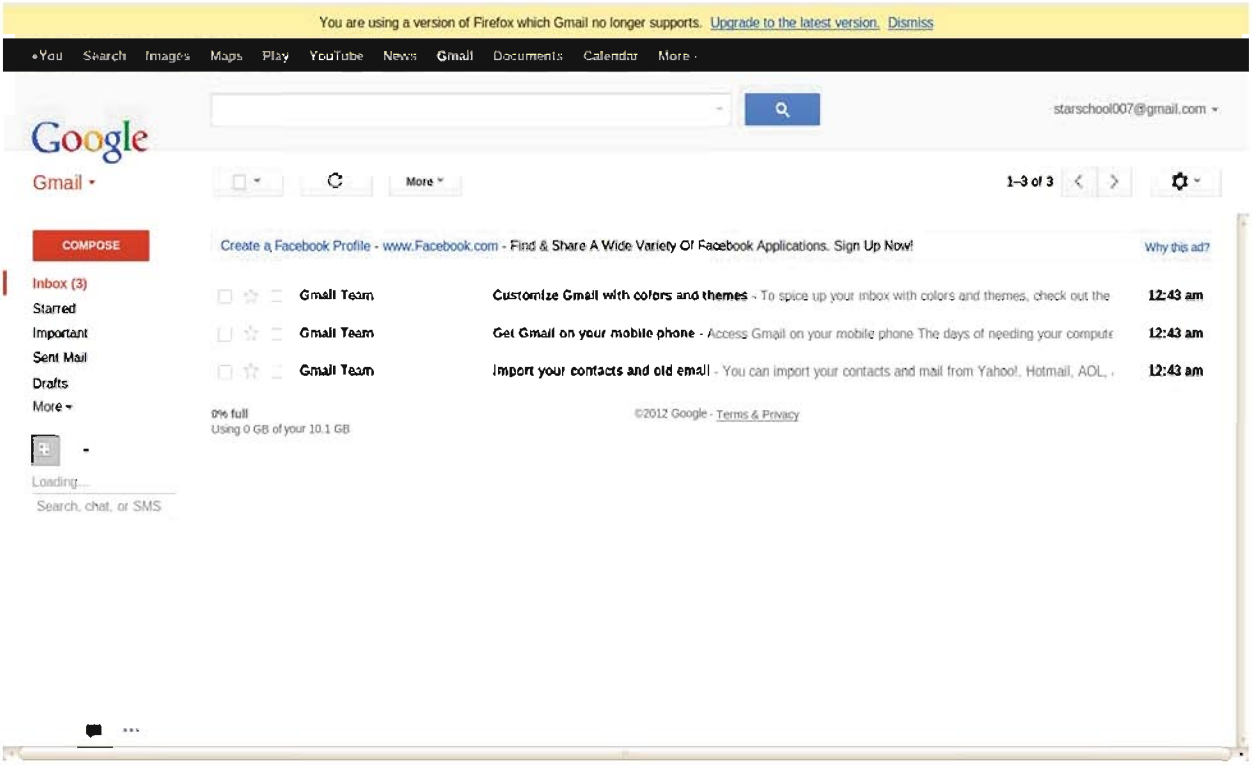

Figure 14.9 : Gmail Account Created

Once you have created the account, you can share it with your friends and family. Similarly you may create an e-mail account on different email providers like yahoo, rediffmail or hotmail.

Evolution as Mail Client

An application that runs on a personal computer and capable of sending, receiving and organizing e-mail is called an e-mail client. There are many such e-mail clients available. Beside the basic facilities to manage e-mails, some e-mail clients also provide features like quick search, saved search folders, advanced message filtering, message grouping, and labels help manage and find messages. Some popular examples of e-mail clients are Thunderbird, Evolution, Claws Mail, Kmail, Balsa, Mutt, and Pine.

Evolution is one of the efficient information managers as an e-mail client that provides facility to manage e-mail, address book, calendar, and other tasks in one place. It can filter unwanted e-mails (such as spam and junk mails) in secured fashion. It can be considered as a kind of groupware application (term describing an application that helps groups of people work together).

There are many advantages to using a mail client. Some of them are as follows :

- When using a mail client, you need not have to always be connected with the Internet. You may connect once, download all your e-mail, disconnect, and read the e-mails when you want. This is very convenient especially when connectivity to the Internet is poor or inconsistent.

- You may also compose number of e-mails anytime, save it, and send it later when you are connected to the Internet.
- Mail clients are generally much faster and provide variety of facilities such as address books, calendars etc. at one place.
- Not only multiple applications (facilities related to e-mailing) but multiple e-mail accounts can be managed by most of the e-mail clients from one place after configuring them once only.

However, you need to install software on your computer and configure it especially for one or more accounts. Further, such clients store messages and related information on your machine which can be used by people who have access to your computer.

The Evolution client can be chosen directly from the 'Applications' menu at the main Ubuntu screen. In case of its unavailability, you may get this software from Ubuntu software centre by performing the following steps:

Getting Evolution

- Go to Applications.
- Go to Ubuntu Software Centre and choose Internet client as shown in figure 14.10.

Figure 14.10 : Getting Internet Related Software Such as Evolution

When we click on 'Internet' icon in figure 14.10, a screen as shown in figure 14.11 is visible.

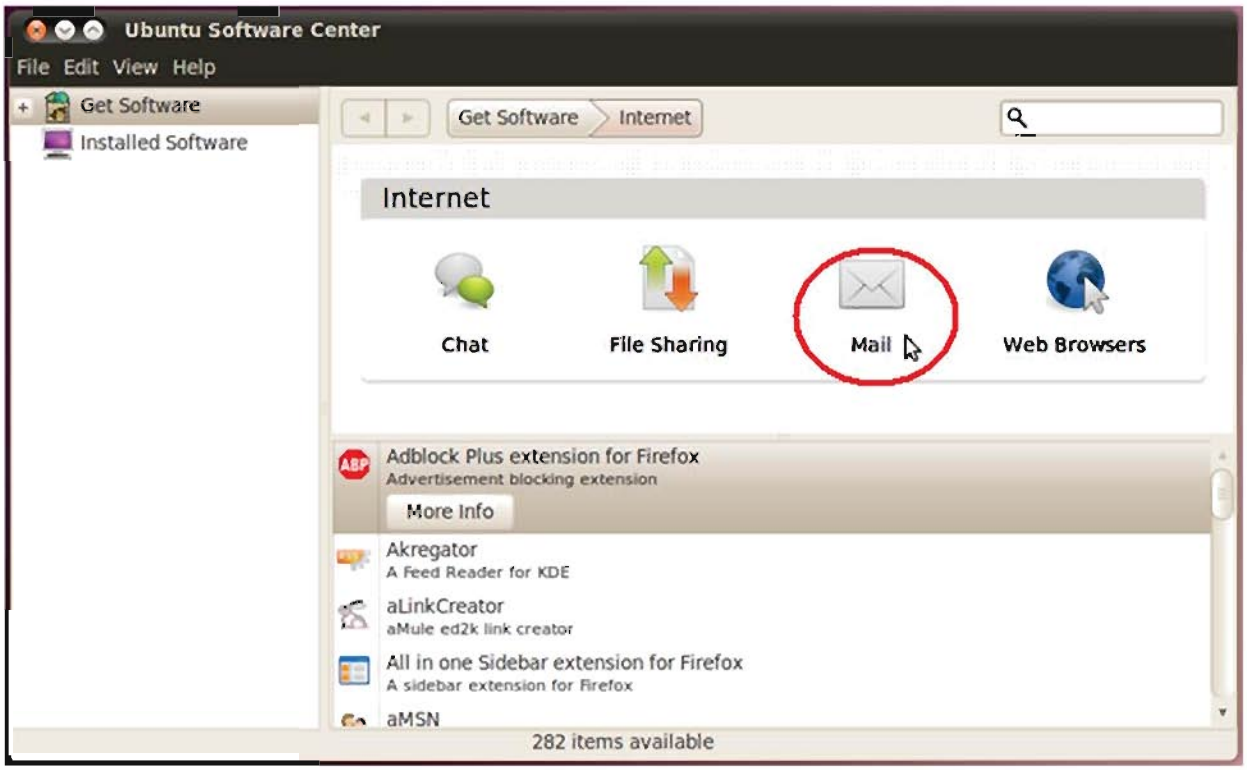

Figure 14.11 : Choosing Mail Option

As shown in the figure 14.11, choose Mail option. This will lead you to a screen as shown in figure 14.12.

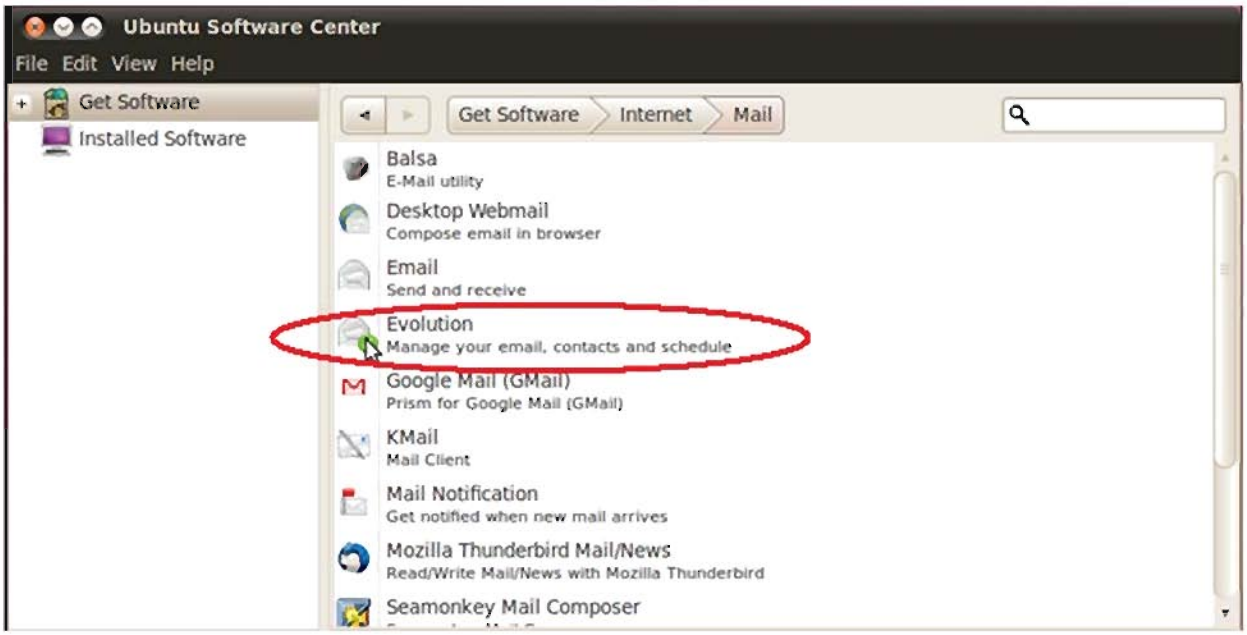

Figure 14.12 : Choosing Evolution as Mail Client

Configuration of Evolution

Once you get the Evolution mail client, you need to configure the mail client first time as follows. To open the Evolution welcome screen select Applications → Office → Evolution Mail and Calendar. You will see a welcome message as shown in figure 14.13.

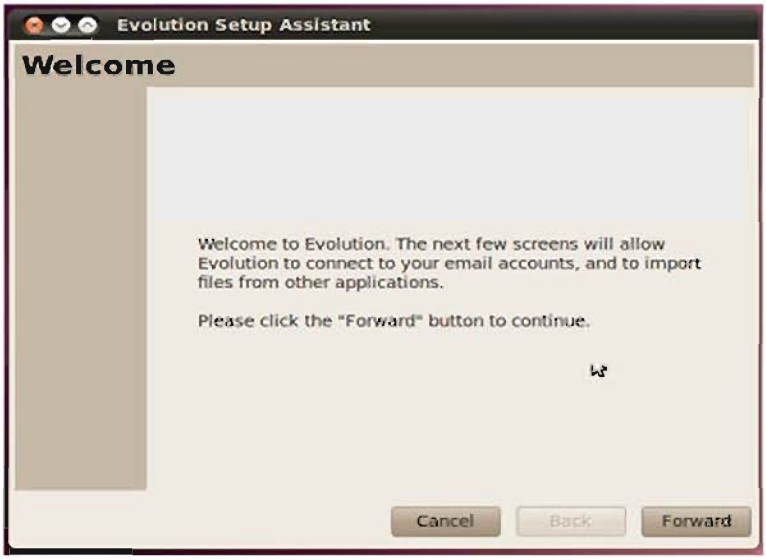

Figure 14.13 : Welcome Message While Configuring Evolution

Once you click on 'Forward' button, you will be presented with a screen that ask you to restore your data from backup. This is helpful in cases where we already and backup and are reconfiguring Evolution due to some problems. If this is a fresh installation then click on Forward button screen as shown in figure 14.14 will appear.

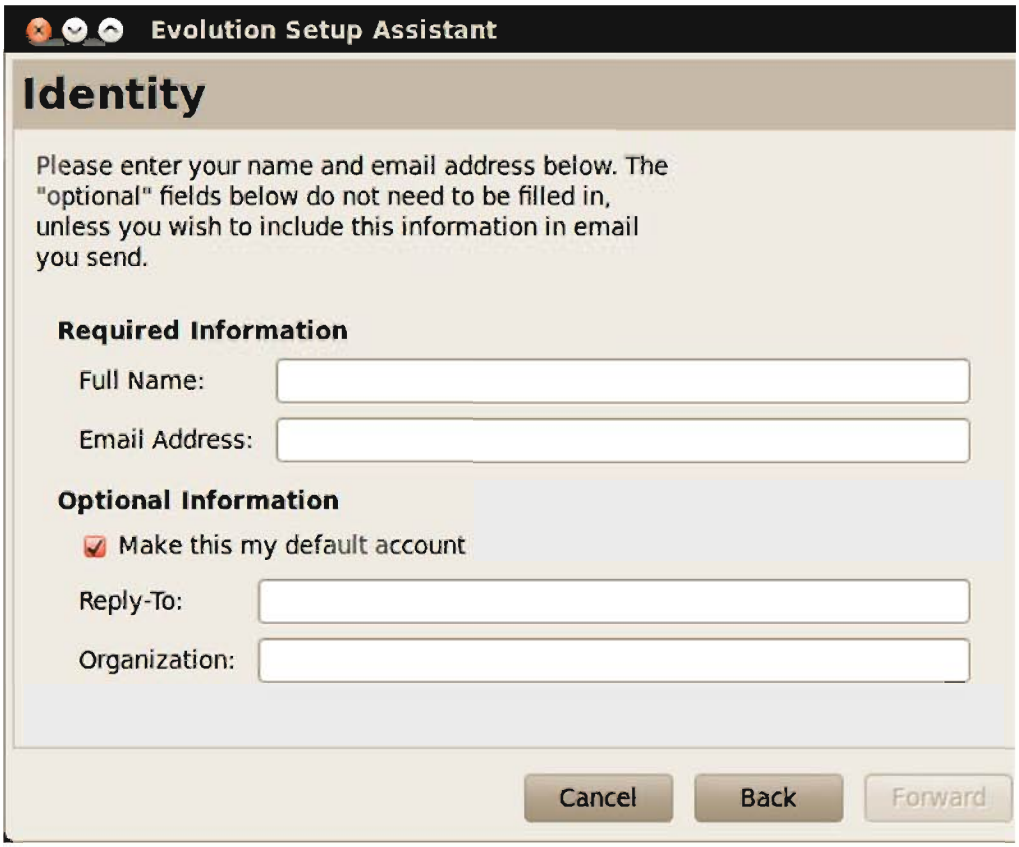

Figure 14.14 : Setting Identity for Evolution Mail Client

Here you are supposed to provide some necessary information that identifies the sender and his organisation. We have provided some sample information as can be seen in figure 14.15.

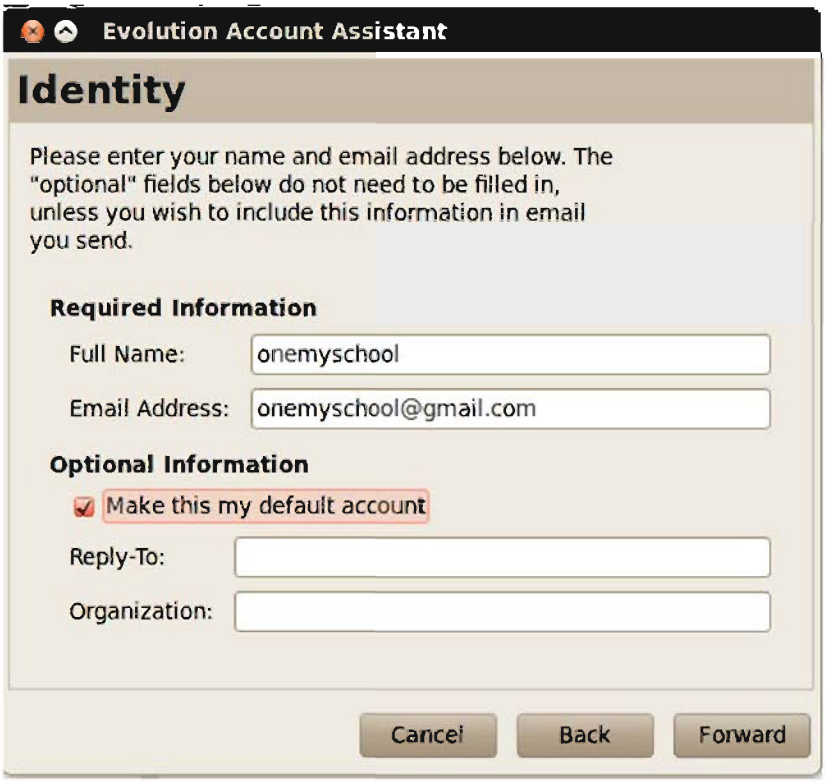

Figure 14.15 : Setting Dummy Identity for Evolution Mail Client

By pressing 'Forward' button screen as shown in figure 14.16 will appear.

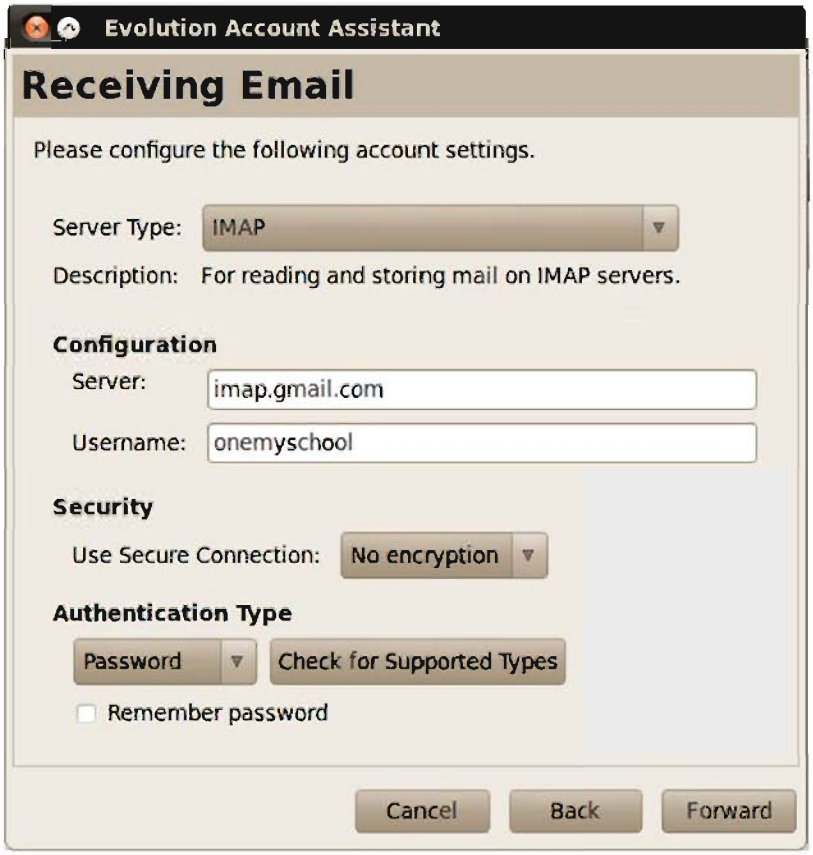

Figure 14.16 : Providing Server Information for Evolution

As we are trying to configure a Gmail account, the server name has been chosen as imap.gmail.com. In case you want to map different account then you need to find out the server name from your Internet service provider for both sending as well as receiving. Once the details have been entered click Forward button, this will lead you to a screen that is used to set email receiving options. Fill the details such as what should be the refresh time of the email client and so on.

By clicking of Forward button on respective screens figure 14.17, figure 14.18, figure 14.19 and figure 14.20 will be visible. Observe that the last screen shows 'Done' message. Here you have to choose 'Apply' to actually apply the setting.

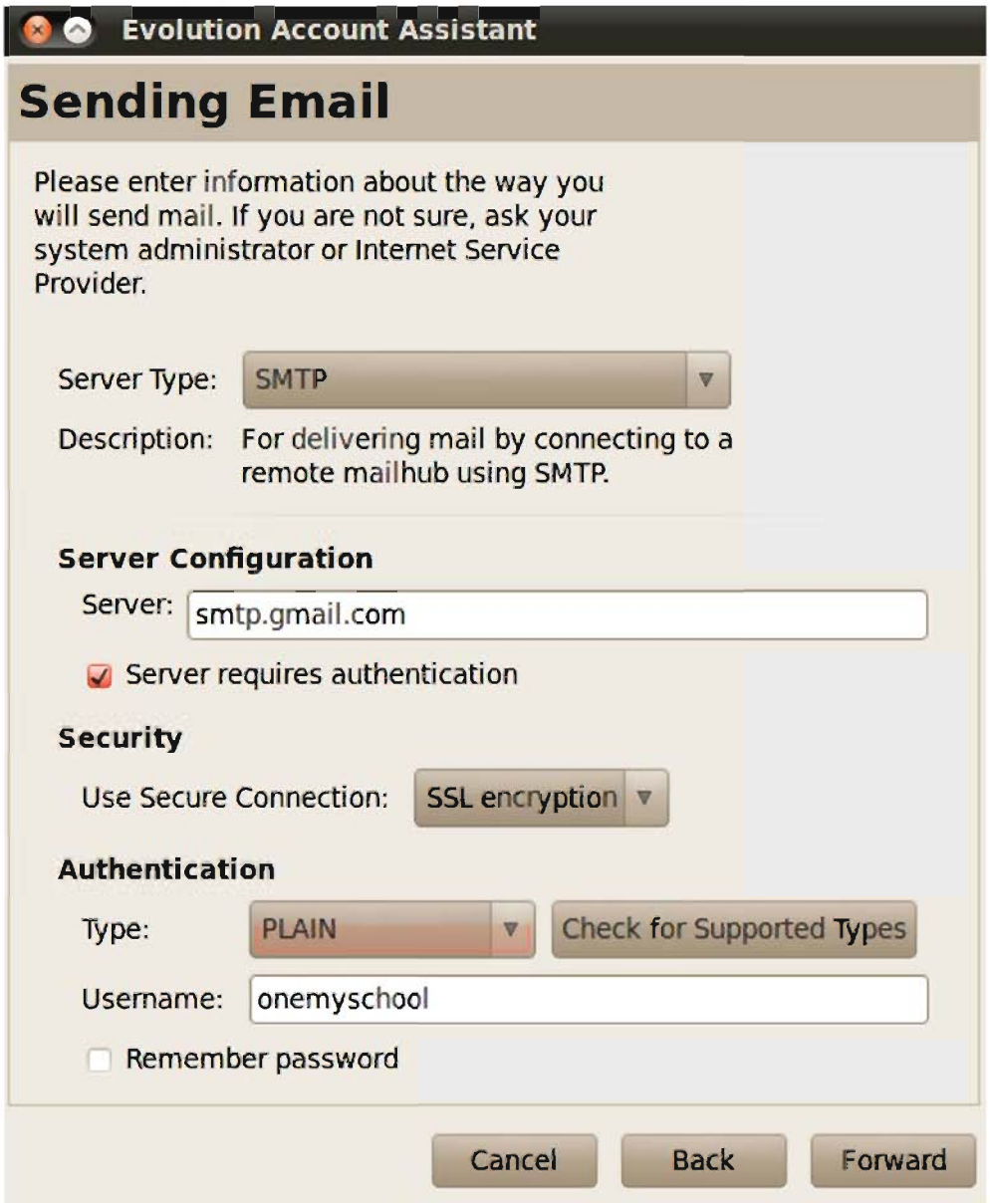

Figure 14.17 : Setting Server and Security Options for Evolution

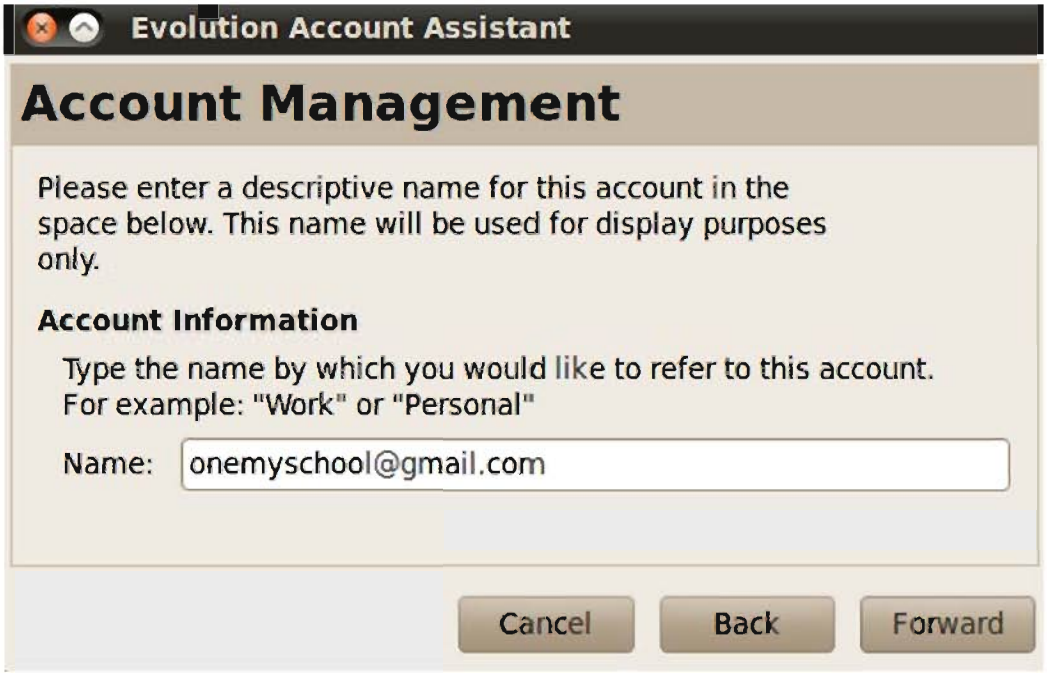

Figure 14.18 : Managing Account Details for Evolution

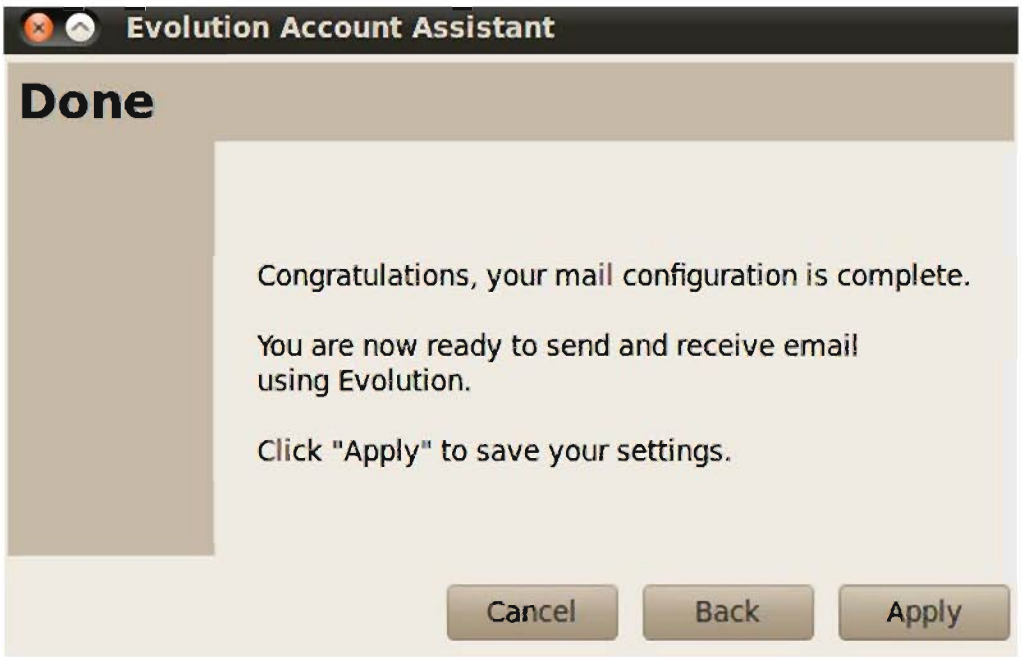

Figure 14.19 : Applying Setting for Evolution

The above steps are systematic method to configure a mail account. Once you have configured the email client properly, you will be shown a welcome message. However, if you have missed to provide some information, you may always go to 'Edit' menu and select 'Preferences'. See the screen shown in figure 14.20.

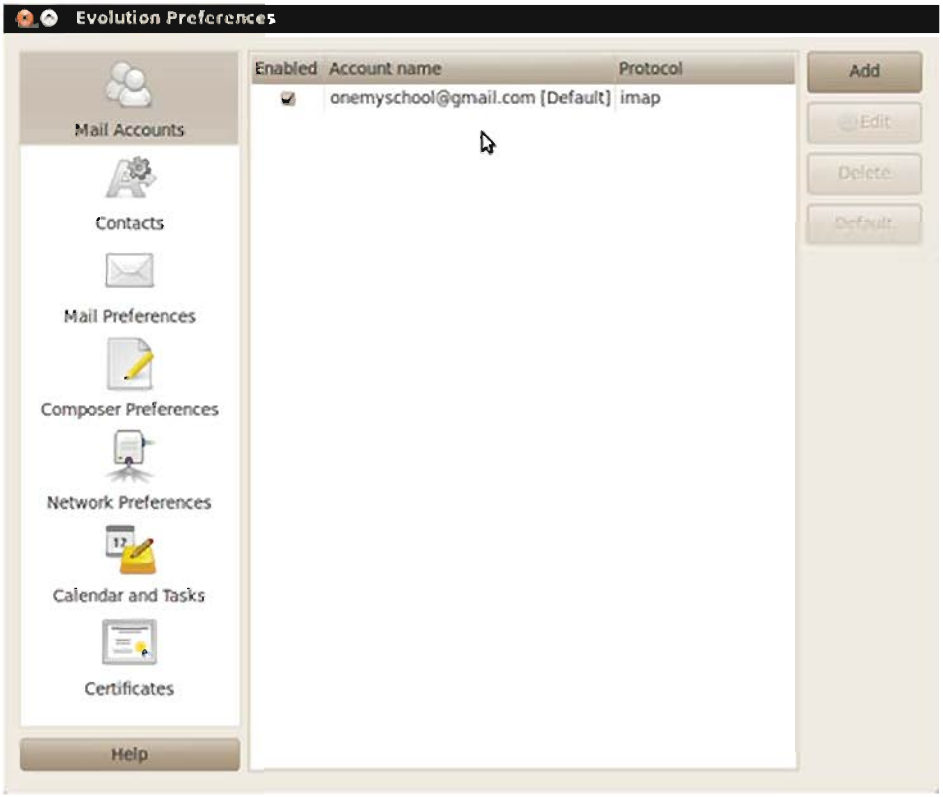

Figure 14.20 : Editing Preferences for Evolution

This option allows you to set preferences for mail, contact, network, calendar and other tasks.

We used a dummy account for configuration purpose here, If you have a valid e-mail address, you may start working with the mail client. The interface of the email client will be somewhat similar to the one shown in figure 14.21.

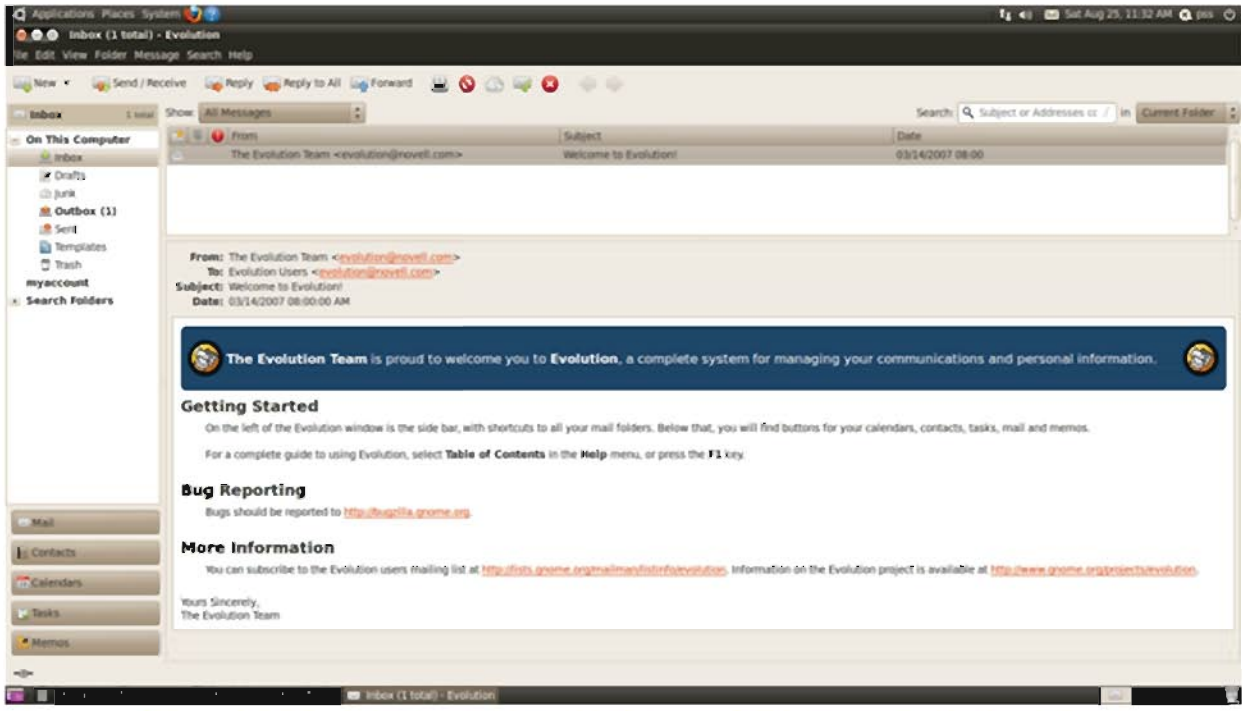

Figure 14.21 : Getting the First Welcome Mail from Evolution Team

It may ask you for password, which you have set earlier. See the dialog box shown in figure 14.22. The system may remember this password. However, it is suggested that if you work on public infrastructure, you should disable the option of remembering the password.

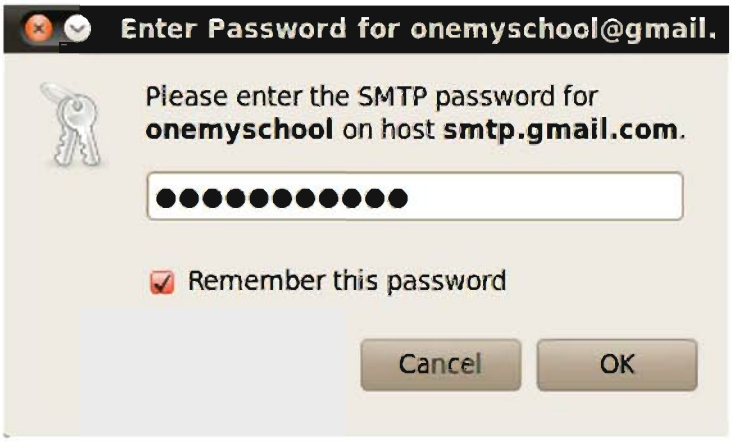

Figure 14.22 : Entering Password

You can compose a new message as can be seen in figure 14.23.

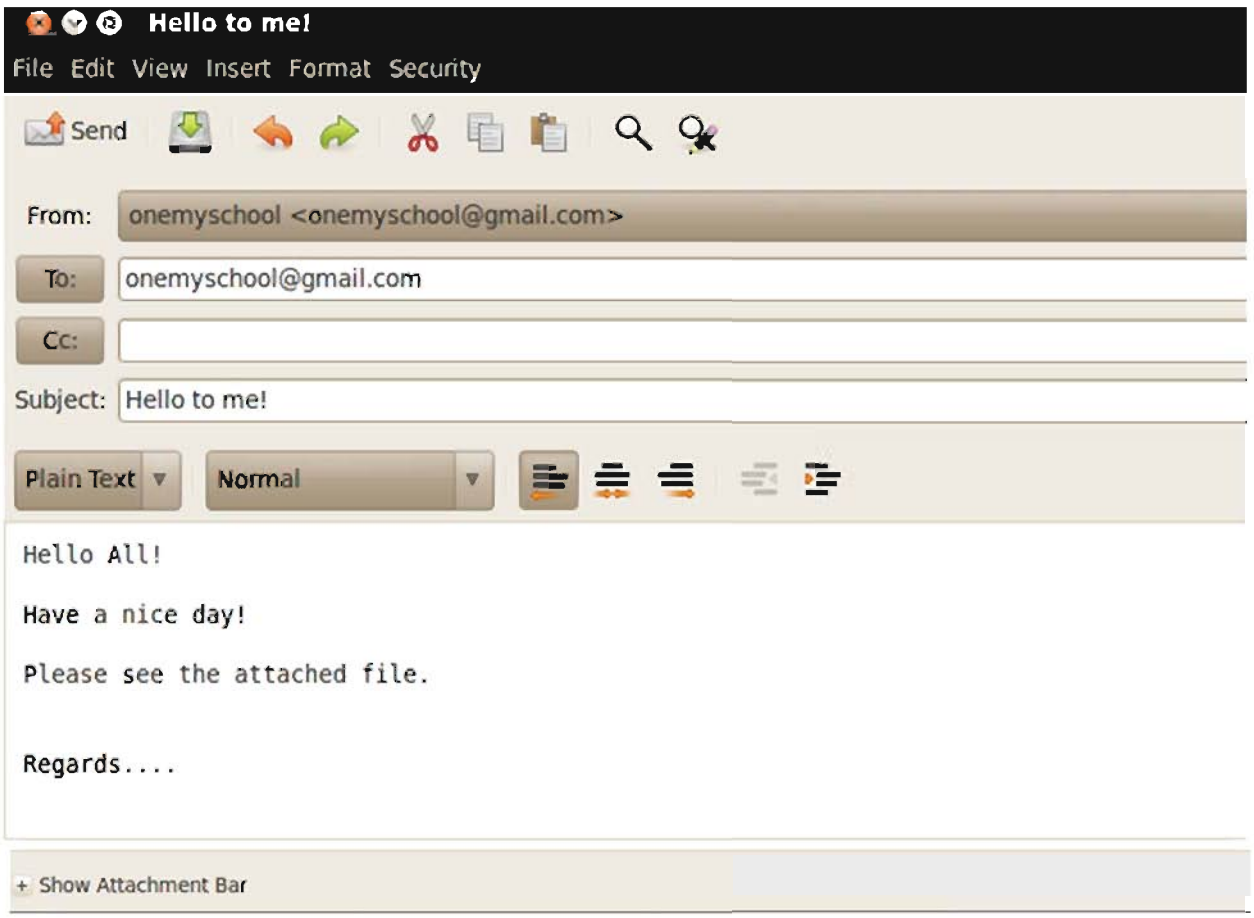

Figure 14.23 : Composing Email

Click on show attachment bar to attach a file. You will find a button for 'Attachment'. Click on that, it will ask related information about the name and location of the file to be attached. See figure 14.24. Note that the view in your screens may differ based on the file that you select.

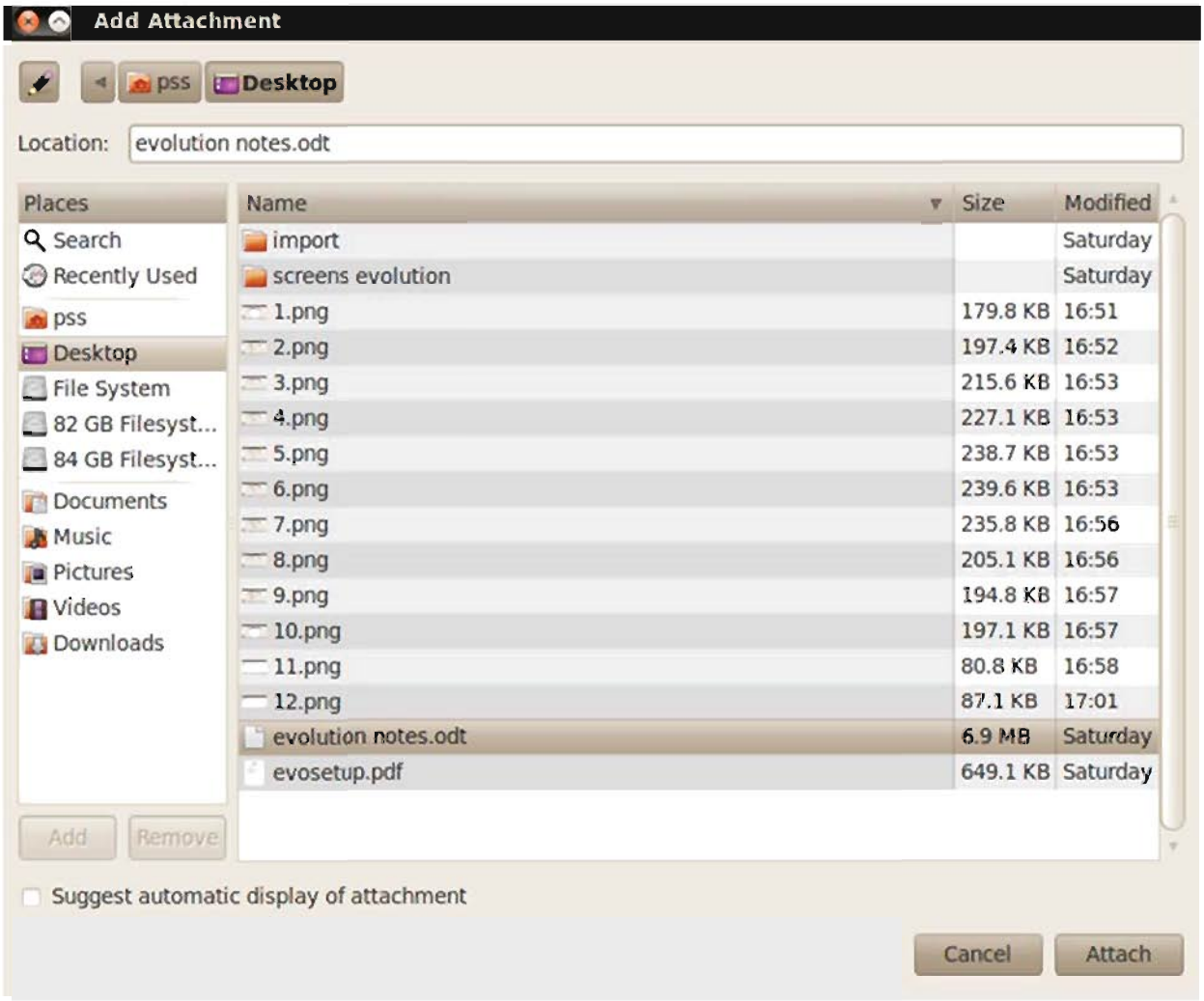

Figure 14.24 : Attaching File in Email

Once you select the appropriate file (here evolution notes.odt of size 6.9 mb) will be attached with the message as shown in figure 14.25.

Figure 14.25 : Attachment Bar

To send the composed message, click on the send button as shown in figure 14.26.

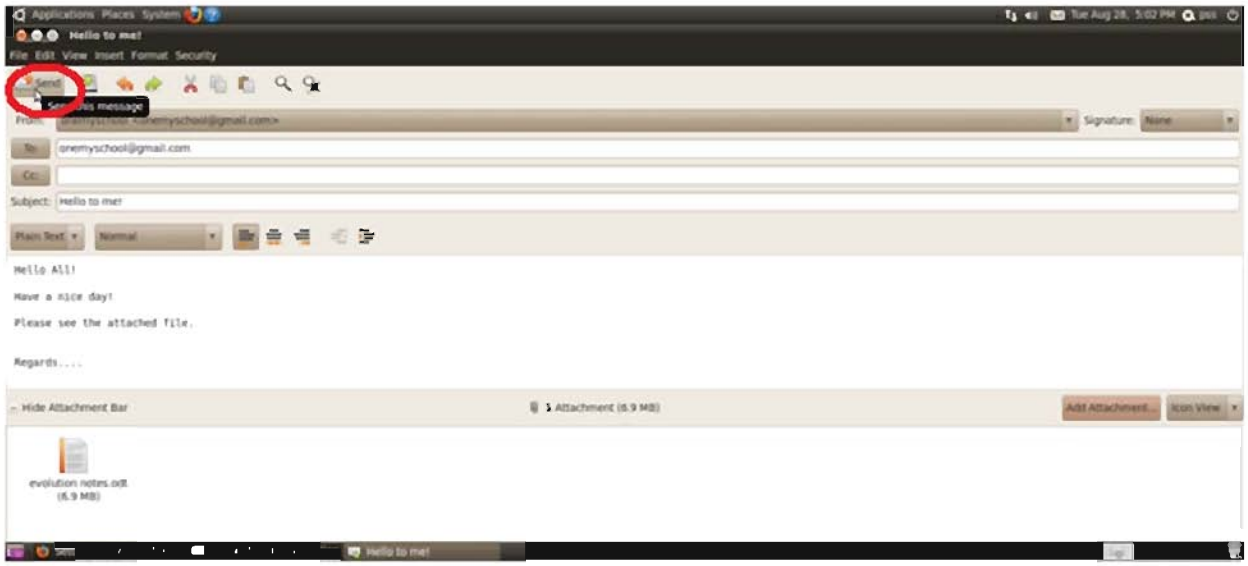

Figure 14.26 : Sending Message

Evolution also helps in importing existing mail and contacts from other clients. If you wish to import contact from the existing mail account, execute *Evolution Import Assistance* as shown in figure 14.27 and provide necessary information.

Figure 14.27 : Importing Information

The evolution import assistant will guide you through a series of steps. After completing these steps you will be able to import your contacts stored in different files.

Security and Cryptography

Whenever we share information and resources using a public domain, we need to assure that only authentic people would use the resource. Consider we have made banking system on-line

using a website on the Internet, it must be assured that only valid users can operate accounts within the bank. Otherwise, fraud may be committed and the bank no longer would be trusted. This is very fatal to the business. Students' marks, financial information, defence and other army operations, formulas and recipes for food items and drugs etc. must be shared within selected group of users. The Internet provides base to share information and services across the world without any geographical barriers, but also invites possibility of malfunctioning and frauds. You might have heard that some sites were hacked by some person. We must save our valuable resources from such hackers. To take advantages of the Internet platform for resource sharing and service providing, we must take care of security of the content from unwanted users such as hackers. The secured resource sharing helps in the ways as mentioned:

To Protect Assets : Once an organization's resources are kept in a shared environment, they must be secured against unauthenticated users. Here resources include not only hardware and software but information also. Consider on-line document management system for a military office. Some sensitive documents must be shared among selected senior officers. The information in form of documents must be protected and kept hidden from public.

To Survive in Competitive Scenario : By developing proper security measures the organization may improve its brand image and quality of the services. Good quality services improve degree of users' acceptance and earn competitive advantages over other organizations in the similar business. Network security counts much when it comes to financial and e-commerce applications. Online shopping sites, telephone bill payments and banking systems are the example systems where it is difficult to survive without proper security provisions.

To Provide Better Services to Users : Organizations must ensure safe and secure transactions to their users. Such transactions are always preferable to practice. Many software quality standards include security handling as their major quality control feature. Confinement to such quality standards improves organization reliability in users' minds and improves customer relationship with the organization. People would like to go for safe and reliable operations. If you know that the bank you are operating with right now was hacked last week; would you like to continue business transactions with it ?

By managing proper security to the resources and service we ensure authentic use of the content. Further, we need to identify weakness of the existing system. The weakness of the existing system often called vulnerabilities. To provide sufficient level of security and to ensure smooth business, we need to learn about various types of risks, possible attacks and threats that cause harm to the computing system (hardware and software both) or users in different ways.

A threat is anything that can disrupt the operation, functioning, integrity, or availability of a shared environment such as network or system. This can take any form and can be malicious, accidental,

or simply an act of nature. Whereas the attack is a specific technique used to exploit a vulnerability of a system.

Here is the brief discussion about possible attacks and harms caused by them.

Virus

A virus is a parasite program that comes along with software. Many times when we use some fancy and attractive software from the Internet, virus may come. Just like a biological virus, it requires a host to hide it and to function. When the host program is executed, the virus is spread. When the infected program is shared through mail or other devices like pen drive, the receiving computer may be infected with virus. Once a virus reaches to a computer, it normally multiplies itself.

One can protect such virus attacks by implementing virus scanning programs available on the market. Clam Antivirus software (www.clamwin.com) is an example of free and open source antivirus software. It is to be noted that most of the virus scanning programs are effective against known viruses. Unfortunately, they are incapable of recognizing and adapting to new viruses.

Trojan Horses

A Trojan horse is a program or code segment that hides inside a program and performs a harmful function to computer resources. The name '*Trojan Horse*' is given from Greek mythology and the story of Troy. The story tells of how the Troy was conquered by hiding some soldiers within a giant wooden horse to get inside into the gates of the Troy. The Trojan program that contains harmful program within it generally claims some useful and fancy function such as mail with attachment, screensaver or free games. When user executes the program, the hidden program inside is also executed and performs in parallel with the main program.

Popular example of a Trojan horse program is password grabber. The login.exe file is replaced with new login.exe, which is a Trojan. When user gives the user name and password, the system stores the information and displays message that the password is incorrect. Meanwhile the system passes the control to actual login.exe, which asks you second time for user name and password. User innocently provides the user name and password again thinking that there may be mistake in giving password earlier. Here user never knows that his user name and password have been stolen.

Worms

A worm is an independent program containing harmful software that is usually propagates itself on networked systems connected with the infected system. It has capability to harm the systems it visits via network. The main difference between a virus and a worm is the ability to propagate itself independently. A virus is not an independent program; whereas a worm is an independent utility. However, there are viruses (like Mellissa) which hybridizes characteristic of viruses and worms.

Trap Doors

A trap door or back door is a way of accessing system or resources of the system using an undocumented way. When system is developed, this way is not mentioned and documented. Generally this is done by the developer of the system. When some dispute is there between the company and developer, or suppose the developer party wants an illegal access to the system, this way is used to gain privileged access to the system or a process of the system.

Logic Bombs

A logic bomb is a program that triggers when some logic conditions are met. Example of some logical conditions are matching particular dates, when there is a lot of amount in a bank account or when sensible information received in a company's database. When such situations are observed, the logic bomb performs some action such as stealing important information, changing balance of bank account and deleting important information from the system. It is easy for developer or a vendor to prepare and embed such logic bombs with the system at the time of development or delivery.

Besides these above mentioned techniques, unauthorised access to the system can be made possible through computers unique IP address scanning, listening to various ports and network resources (sniffing), redirecting, password cracking, session hijacking and spoofing (renaming) the infrastructure such as server (DNS spoofing), etc. Further, if the objective of possible hacker to the system is not the important resource, but to disturb the operation of the system, denial-of-service attacks are designed. These attacks are used to shut down or make the system inoperable. It is known as a denial-of-service attack as it is used to deny users access to the system. Many times spam (unwanted) emails are used as carriers of such attacks.

There are many ways to prevent the resources and systems from the aforementioned attacks. Firewall, antivirus software and authentication of valid users by different mechanisms (such as user name and password) are some popular measures that take care of security threats and virus attacks. Further, cryptography (encryption of the sensitive information) can also be used to handle such attacks, which is discussed in the following section.

Cryptography as a Security Tool

Cryptography is a method of secret (*crypto*) writing (*graphy*). Cryptography is application of various techniques and principles to transform simple message into unintelligible secret message and to retransform the message back to its original form.

Cryptography can be used as a tool to provide privacy, to authenticate the identities of communicating parties, and to ensure message integrity. The cryptography terminology is described herewith.

Basic Cryptography Terminology

- The original message is generally called plain text.
- The transformed secret message is called cipher-text.
- An algorithm for transforming the original message into unintelligible message by some logic is known as cipher.

- The process of converting plaintext to cipher-text is known as enciphering. It is also known as encoding or encryption.
- The process of converting cipher-text back into plaintext is known as deciphering. It is also known as decoding or decryption.
- Many times sender and receiver share some critical information that must be provided to the cipher (algorithm) to facilitate encoding and decoding of messages. This critical information is known as key. The key may be public (also known as asymmetric key) or private (symmetric key or secrete key). In absence of such keys, encrypted text can be retrieved but cannot be decoded into meaningful information.
- Frequently, in absence of keys to the cipher, people study the encrypted text in order to break it and to extract information. The study of principles and methods of transforming an encrypted message back into meaningful information without knowledge of the key is known as cryptanalysis. It is also called code breaking.
- Both cryptography and cryptanalysis together is known as cryptology.

Example

An example of a cipher to scramble a message is as mentioned. Consider the rules stated :

(1) Check the first letter/character of the message given.

(2) If it is a valid English alphabet, simply replace each letter with its next to next letter in standard English alphabets.

(3) If it is not a valid English alphabet, leave it as it is.

(4) Repeat this procedure for every alphabet in the message.

To unscramble this message, we need to follow the same procedure in reverse order. Consider text message is given :

My school name is New School

This message with the aforementioned cipher can be encrypted as shown in the table 14.3.

Letter	M	y	Blank	s	c	h	o	o	l	Blank
Converted letter	O	a	Blank	u	e	j	q	q	n	Blank
Letter	n	a	m	e	Blank	i	s	Blank	N	e
Converted letter	p	c	o	g	Blank	k	u	Blank	P	g
Letter	w	Blank	S	c	h	o	o	l	Full stop	
Converted letter	y	Blank	U	e	j	q	q	n	Full stop	

Table 14.3 : Encryption of a Message

If we apply the process of encryption mentioned, the encrypted text is " Oa uejqqn Pcog ku Pgy Uejqqn.". Try to decrypt the encrypted text into the original message.

Besides encryption, data & other objects are compressed in order to save memory and bandwidth (in case they need to be sent via network). Instead of storing or passing the original set of data, one may store or pass encrypted as well as compressed data. This extra effort saves time to pass data, space required by the data and bandwidth of network. Further, this strategy also secures the content from unauthorized access on the personal computer as well as on the network. On receiving end, this technique saves download time, cost and improves security. However, it will take little effort for encryption at sender side and description at receiver side.

Summary

We have learnt that Internet as well as other network can be used for variety of applications. In this chapter we learnt about one such major application e-mail. We saw benefits of e-mail, configuration of e-mail clients and how to send e-mail. As the Internet and Web provide mechanisms to share resources, we must take care of the security of the resources which are made available on such platforms. There may be attack of virus or other programs that causes threats and damage of the important information and resources. We also saw how to protect data by applying various techniques and principles of cryptography and prevent its misuse from invalid users.

EXERCISE

1. What are the benefits of email ?
2. Explain the structure of e-mail.
3. How e-mail works ?
4. What are the typical operations that can be performed on an e-mail ? Explain each in one line.
5. What is a threat ? How it can be avoided ?
6. Define the following terms :
   (a) Vulnerabilities (b) Virus
   (c) Trojan horse (d) Worm
   (e) Logic bomb (f) Trap door
7. Differentiate virus and worm.
8. Explain the term cipher. How it is related with security and cryptography ?

9. Define the following terms :

(a) Cryptology (b) Cryptanalysis (c) Cryptography

10. List any three popular mail clients of your choice.

11. **Choose the most appropriate option from those given below :**

(1) What type of information can be send through an E-mail ?

(a) Text and voice (b) Text and numbers

(c) Multimedia (d) All of these

(2) What is an alternative name of Junk mails ?

(a) Less important mails (b) Very important fast mails

(c) Unwanted mails (d) All of these

(3) Which of the followings is needed to send an e-mail besides computers and basic internet facilities ?

(a) E-mail id or e-mail addresses (b) Permanent address

(c) Postal addresses (d) All of these

(4) Which of the following is a parasite program that comes along with software that does some harm to the system ?

(a) Attack (b) Virus

(c) Vulnerabilities (d) All of these

(5) Which of the following is used to transform the original message into unintelligible message by some logic ?

(a) kaison (b) cipher

(c) logic bomb (d) atom bomb

(6) Which of the following is an application of various techniques and principles to transform simple message into unintelligible secret message and to retransform the message back to its original form ?

(a) Cryptography (b) Cryptanalysis

(c) Cryptology (d) All of these

(7) Which of the followings is known as the process of converting a cipher-text into original plain text ?

(a) Enciphering (b) Encryption

(c) Ciphering (d) Decryption

(8) Cryptanalysis is also called

(a) code breaking (b) logic breaking

(c) design breaking (d) system breaking

(9) What is the collective name of both cryptography and cryptanalysis ?

(a) Cryptography (b) Cryptanalysis

(c) Cryptology (d) All of these

PRACTICAL EXERCISE

1. Create an e-mail account and send a mail to your friend. Ask your friend to reply to your mail.
2. Respond to your friend's message and send some attachment to the friend along with the responding mail.
3. Send a message to more than one friend.
4. Encrypt a message of your choice, type it and send it to your friend as an email. Ask your friend to decrypt it.
5. Run any antivirus program available at your place and check for virus.

Appendix

Adding Support for Indian Languages

Ubuntu comes with support for several Indian languages, including Gujarati and Hindi. The installation CD, however, contains support only for English. To add support for Gujarati, you need to take the following steps (You should be connected to the Internet).

Select the menu item System → Administration → Language Support.

Select "Install Languages", Choose Gujarati from the list of languages, and select the "Input methods" and "Extra Fonts" checkboxes.

Click on "Apply Changes".

After you get the message "Successfully applied all the changes…", select "ibus" for the keyboard input method system.

Close the window.

Select the menu item System → Preferences → iBus Preferences.

You will get a dialog with the message "iBus daemon not started. Start it now?". Select "Yes".

In the notification area in the top panel, you will see an additional icon for iBus.

A dialog box will open for setting iBus preferences (it can also be opened by clicking on the iBus icon and selecting "Preferences").

Switch to the input method tab, select Gujarati → itrans (m17n) from the list and click "Add".

Now you can type Gujarati text in any program. Support for Hindi can be added in a similar way.

To change the language while typing in any program, click on the iBus icon and select appropriate language (there are keyboard shortcuts as well). You can mix languages also.

Typing Gujarati using the itrans m17n input method is very intuitive for new users because it is phonetic, i.e. the keystrokes to be pressed follow the usual transliteration schemes between the Gujarati and Roman (English) scripts. In general, typing a simple Gujarati letter involves typing the letter for the consonant followed by the letter for the vovel as per the examples below :

k → ક્ **ka** → ક **kaa** or **kA** → કા **ki** → કિ

kee or **kI** → કી **ku** → કુ **kuu** or **kU** → કૂ **ke** → કે

kai → કૈ **ko** → કો **kau** → કૌ **kM** → કં

kH → કઃ

Table A.1 shows the full key map :

Keyboard Sequence	Character	Keyboard Sequence	Character	Keyboard Sequence	Character	Keyboard Sequence	Character
k	ક્	p	પ્	a	અ	.h	ઃ
kh	ખ્	ph	ફ્	aa	આ	AUM	ૐ
g	ગ્	b	બ્	A	આ	OM	ૐ
gh	ઘ્	bh	ભ્	i	ઇ	0	૦
~N	ઙ્	m	મ્	**i**	ઈ	1	૧
N^	ઙ્	y	ય્	I	ઈ	2	૨
ch	ચ્	r	ર્	u	ઉ	3	૩
Ch	છ્	l	લ્	uu	ઊ	4	૪
chh	છ્	ld	ળ્	U	ઊ	5	૫
j	જ્	L	ળ્	RRi	ૠ	6	૬
jh	ઝ્	v	વ્	R^i	ૠ	7	૭
~n	ઞ્	w	વ્	.c	ઍ	8	૮
JN	ઞ્	sh	શ્	e.c	ઍ	9	૯
T	ટ્	Sh	ષ્	e	એ	#	૧૨
Th	ઠ્	shh	ષ્	ai	ઐ	$	૨
D	ડ્	s	સ્	o.c	ઑ	^	ત્ર
Dh	ઢ્	h	હ્	o	ઓ	*	શ્ર
N	ણ્	j~n	જ્ઞ	au	ઔ		
t	ત્	GY	જ્ઞ	RRI	ૠ		
th	થ્	dny	જ્ઞ	R^I	ૠ		
d	દ્	x	ક્ષ્	.N	ં		
dh	ધ્			.n	ં		
n	ન્			M	ં		
				H	ઃ		
				.a	ઃ		

Table A.1 : Key Map for the itrans (m17n) Keyboard