

## ANNEXURE - 1

### List of Python Functions

#### I. Built-in Functions

Function	Description
<b>abs()</b>	returns absolute value of a number
<b>all()</b>	returns true when all elements in iterable is true
<b>any()</b>	Checks if any Element of an Iterable is True
<b>ascii()</b>	Returns String Containing Printable Representation
<b>bin()</b>	converts integer to binary string
<b>bool()</b>	Converts a Value to Boolean
<b>bytearray()</b>	returns array of given byte size
<b>bytes()</b>	returns immutable bytes object
<b>callable()</b>	Checks if the Object is Callable
<b>chr()</b>	Returns a Character (a string) from an Integer
<b>classmethod()</b>	returns class method for given function
<b>compile()</b>	Returns a Python code object
<b>complex()</b>	Creates a Complex Number
<b>delattr()</b>	Deletes Attribute From the Object
<b>dir()</b>	Tries to Return Attributes of Object
<b>divmod()</b>	Returns a Tuple of Quotient and Remainder
<b>enumerate()</b>	Returns an Enumerate Object
<b>eval()</b>	Runs Python Code Within Program
<b>exec()</b>	Executes Dynamically Created Program
<b>filter()</b>	constructs iterator from elements which are true
<b>float()</b>	returns floating point number from number, string
<b>format()</b>	returns formatted representation of a value
<b>getattr()</b>	returns value of named attribute of an object
<b>globals()</b>	returns dictionary of current global symbol table
<b>hasattr()</b>	returns whether object has named attribute
<b>hash()</b>	returns hash value of an object
<b>help()</b>	Invokes the built-in Help System
<b>hex()</b>	Converts to Integer to Hexadecimal
<b>id()</b>	Returns Identify of an Object
<b>isinstance()</b>	Checks if a Object is an Instance of Class
<b>issubclass()</b>	Checks if a Object is Subclass of a Class
<b>iter()</b>	returns iterator for an object
<b>len()</b>	Returns Length of an Object
<b>locals()</b>	Returns dictionary of a current local symbol table
<b>map()</b>	Applies Function and Returns a List
<b>max()</b>	returns largest element
<b>memoryview()</b>	returns memory view of an argument
<b>min()</b>	returns smallest element
<b>next()</b>	Retrieves Next Element from Iterator
<b>object()</b>	Creates a Featureless Object
<b>oct()</b>	converts integer to octal

<b>open()</b>	Returns a File object
<b>ord()</b>	returns Unicode code point for Unicode character
<b>pow()</b>	returns x to the power of y
<b>print()</b>	Prints the Given Object
<b>property()</b>	returns a property attribute
<b>range()</b>	return sequence of integers between start and stop
<b>repr()</b>	returns printable representation of an object
<b>reversed()</b>	returns reversed iterator of a sequence
<b>round()</b>	rounds a floating point number to ndigits places.
<b>set()</b>	returns a Python set
<b>setattr()</b>	sets value of an attribute of object
<b>slice()</b>	creates a slice object specified by range()
<b>sorted()</b>	returns sorted list from a given iterable
<b>staticmethod()</b>	creates static method from a function
<b>str()</b>	returns informal representation of an object
<b>sum()</b>	Add items of an Iterable
<b>super()</b>	Allow you to Refer Parent Class by super
<b>type()</b>	Returns Type of an Object
<b>vars()</b>	Returns <code>__dict__</code> attribute of a class
<b>__import__()</b>	Advanced Function Called by import

## II. String Functions

Function	Description
<b>capitalize()</b>	Converts first character to Capital Letter
<b>casefold()</b>	converts to casefolded strings
<b>center()</b>	Pads string with specified character
<b>count()</b>	returns occurrences of substring in string
<b>encode()</b>	returns encoded string of given string
<b>endswith()</b>	Checks if String Ends with the Specified Suffix
<b>expandtabs()</b>	Replaces Tab character With Spaces
<b>find()</b>	Returns the index of first occurrence of substring
<b>format()</b>	formats string into nicer output
<b>format_map()</b>	Formats the String Using Dictionary
<b>index()</b>	Returns Index of Substring
<b>input()</b>	reads and returns a line of string
<b>int()</b>	returns integer from a number or string
<b>isalnum()</b>	Checks Alphanumeric Character
<b>isalpha()</b>	Checks if All Characters are Alphabets
<b>isdecimal()</b>	Checks Decimal Characters
<b>isdigit()</b>	Checks Digit Characters
<b>isidentifier()</b>	Checks for Valid Identifier
<b>islower()</b>	Checks if all Alphabets in a String are Lowercase
<b>isnumeric()</b>	Checks Numeric Characters
<b>isprintable()</b>	Checks Printable Character
<b>isspace()</b>	Checks Whitespace Characters

<b>istitle()</b>	Checks for Titlecased String
<b>isupper()</b>	returns if all characters are uppercase characters
<b>join()</b>	Returns a Concatenated String
<b>ljust()</b>	returns left-justified string of given width
<b>lower()</b>	returns lowercased string
<b>lstrip()</b>	Removes Leading Characters
<b>maketrans()</b>	returns a translation table
<b>partition()</b>	Returns a Tuple
<b>replace()</b>	Replaces Substring Inside
<b>rfind()</b>	Returns the Highest Index of Substring
<b>rindex()</b>	Returns Highest Index of Substring
<b>rjust()</b>	returns right-justified string of given width
<b>rpartition()</b>	Returns a Tuple
<b>rsplit()</b>	Splits String From Right
<b>rstrip()</b>	Removes Trailing Characters
<b>slice()</b>	creates a slice object specified by range()
<b>split()</b>	Splits String from Left
<b>splitlines()</b>	Splits String at Line Boundaries
<b>startswith()</b>	Checks if String Starts with the Specified String
<b>strip()</b>	Removes Both Leading and Trailing Characters
<b>swapcase()</b>	swap uppercase characters to lowercase; vice versa
<b>title()</b>	Returns a Title Cased String
<b>translate()</b>	returns mapped charactered string
<b>upper()</b>	returns uppercased string
<b>zfill()</b>	Returns a Copy of The String Padded With Zeros

### III. List Functions

Function	Description
append()	Add Single Element to The List
clear()	Removes all Items from the List
copy()	Returns Shallow Copy of a List
count()	returns occurrences of element in a list
extend()	Add Elements of a List to Another List
index()	returns smallest index of element in list
insert()	Inserts Element to The List
list() Function	creates list in Python
pop()	Removes Element at Given Index
remove()	Removes Element from the List
reverse()	Reverses a List
slice()	creates a slice object specified by range()
sort()	sorts elements of a list

#### IV. Tuple Functions

Function	Description
count()	returns occurrences of element in a tuple
index()	returns smallest index of element in tuple
slice()	creates a slice object specified by range()
tuple() Function	Creates a Tuple
zip()	Returns an Iterator of Tuples

#### V. Set Functions

Function	Description
add()	adds element to a set
clear()	remove all elements from a set
copy()	Returns Shallow Copy of a Set
difference()	Returns Difference of Two Sets
difference_update()	Updates Calling Set With Intersection of Sets
discard()	Removes an Element from The Set
frozenset()	returns immutable frozenset object
intersection()	Returns Intersection of Two or More Sets
intersection_update()	Updates Calling Set With Intersection of Sets
isdisjoint()	Checks Disjoint Sets
issubset()	Checks if a Set is Subset of Another Set
issuperset()	Checks if a Set is Superset of Another Set
pop()	Removes an Arbitrary Element
remove()	Removes Element from the Set
set()	returns a Python set
symmetric_difference()	Returns Symmetric Difference
symmetric_difference_update()	Updates Set With Symmetric Difference
union()	Returns Union of Sets
update()	Add Elements to The Set.

#### VI. Dictionary Functions

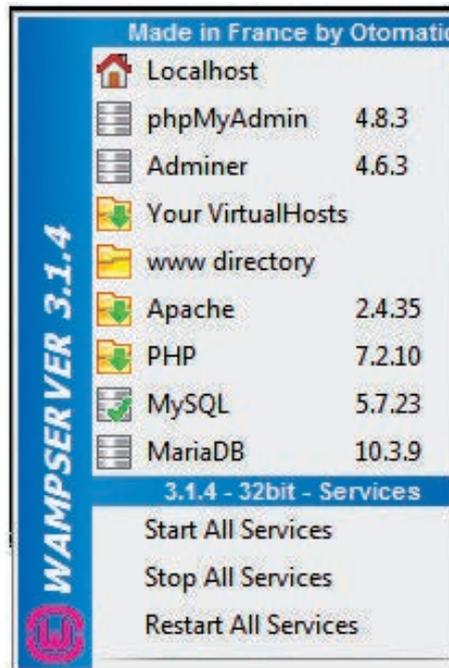
Function	Description
clear()	Removes all Items
copy()	Returns Shallow Copy of a Dictionary
dict()	Creates a Dictionary
fromkeys()	creates dictionary from given sequence
get()	Returns Value of The Key
items()	returns view of dictionary's (key, value) pair
keys()	Returns View Object of All Keys
pop()	removes and returns element having given key
popitem()	Returns & Removes Element From Dictionary
setdefault()	Inserts Key With a Value if Key is not Present
update()	Updates the Dictionary
values()	returns view of all values in dictionary

## ANNEXURE - 2

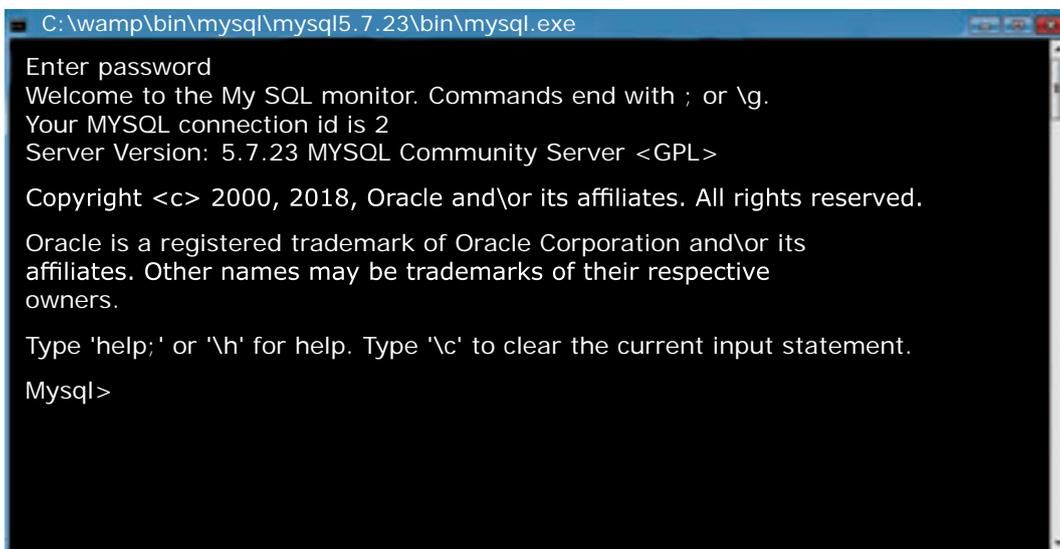


### Installation of MySQL and Creating a database

- Download WAMP based on system configuration and install it in your computer.



- log on to MySQL console as user (root).
- Enter password appears (No need to enter password), press Enter key.
- MySQL prompt appears from where you can enter the SQL commands.



## ANNEXURE-3

### Installation of MinGW

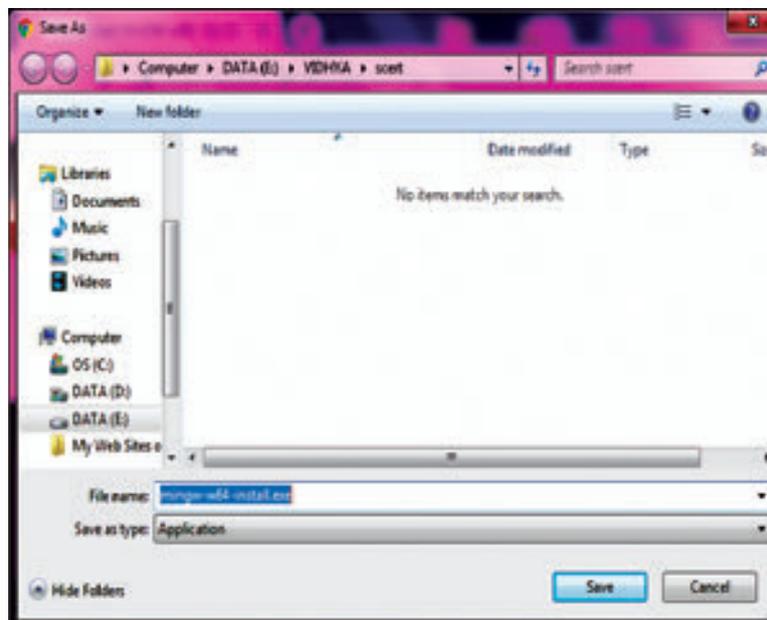


#### STEPS TO INSTALL MinGW-w64 - for 32 and 64 bit Windows

**STEP1:** Type <https://sourceforge.net/projects/mingw-w64> in any search engine(www.google.in) and double click it.



**Step 2 :** Click the Download button which appears in the home page. The file should start downloading in your standard download folder or it prompts the save as dialog box

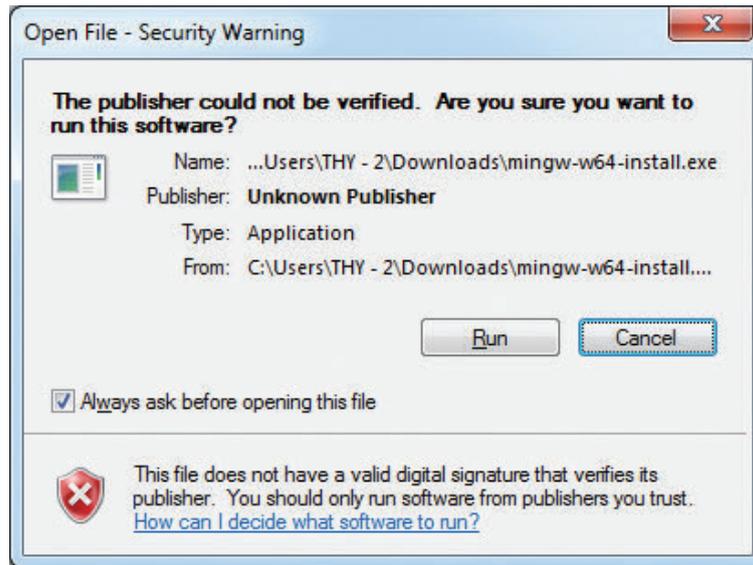


**Step 3 :** The file should appear as  mingw-get-setup.exe . Terminate the window browsing the SourceForge web site. Move this file to a more permanent location, so that you can install MinGW (and reinstall it later, if necessary).

**step 4:** Start the Installation as per the instructions given bellow.

### Installing:

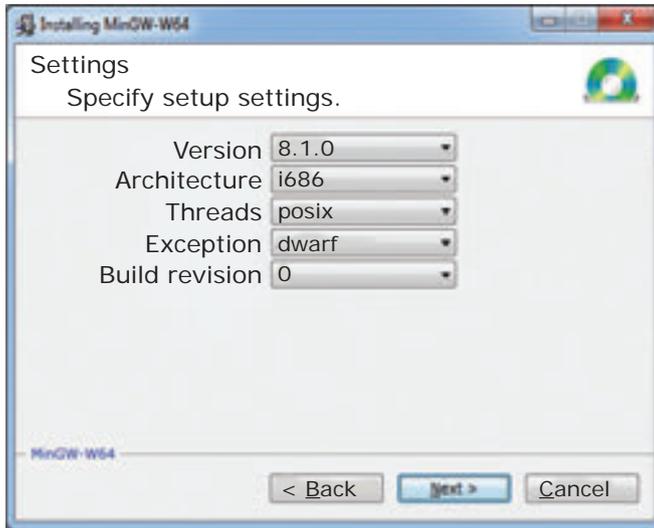
1. Double-click the  . icon. The following pop-up window will appear.



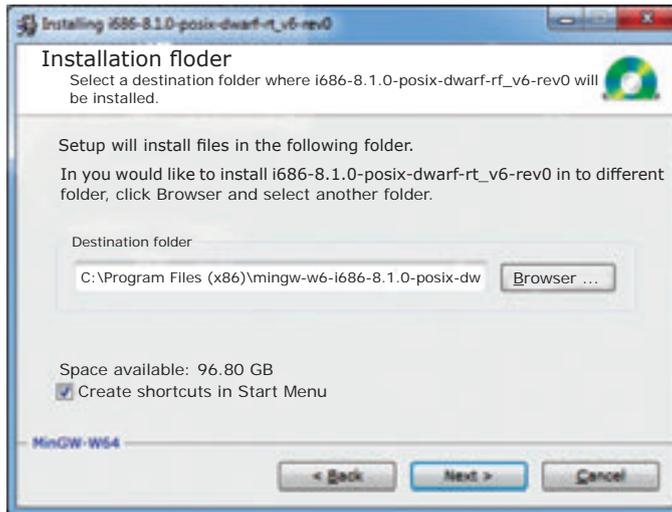
2. Click Run. The following pop-up window will appear. Click next button in the following window



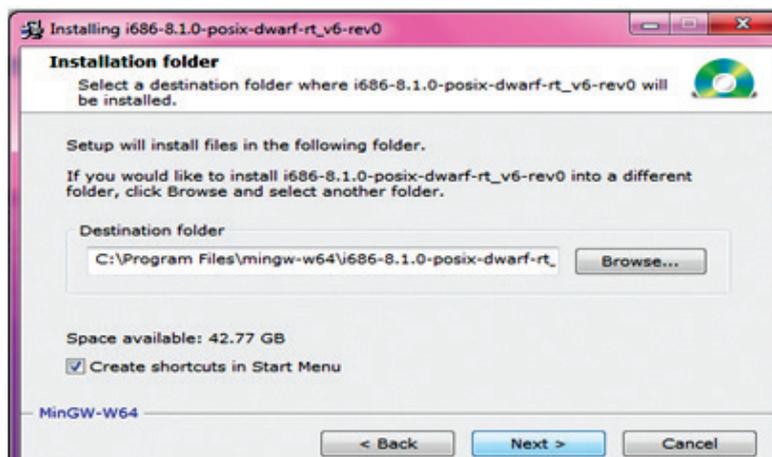
3. The following pop-up window will appear, which specify the Setup settings



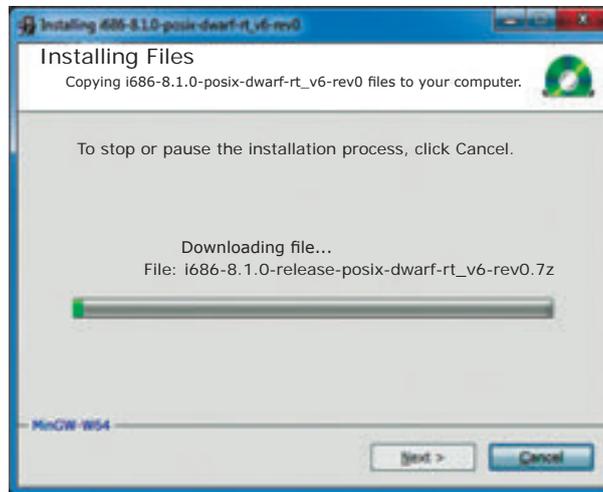
4. Select the destination folder in the following window to install MinGW-W64. Click next button



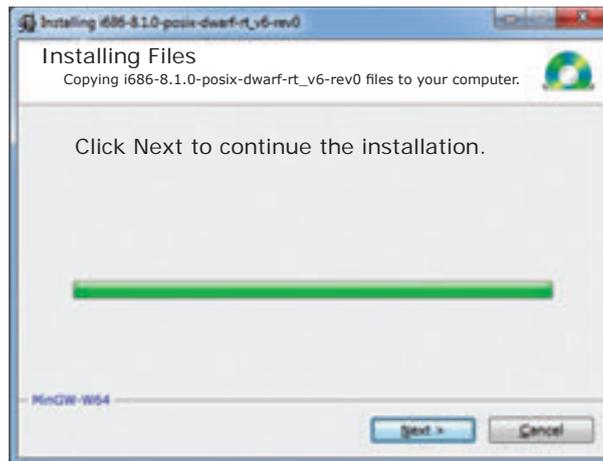
5. Select the destination folder in the following window to install MinGW-W64.



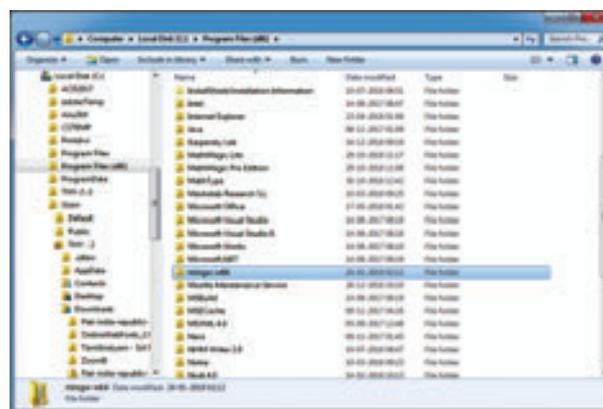
6. Wait for the completion of installation



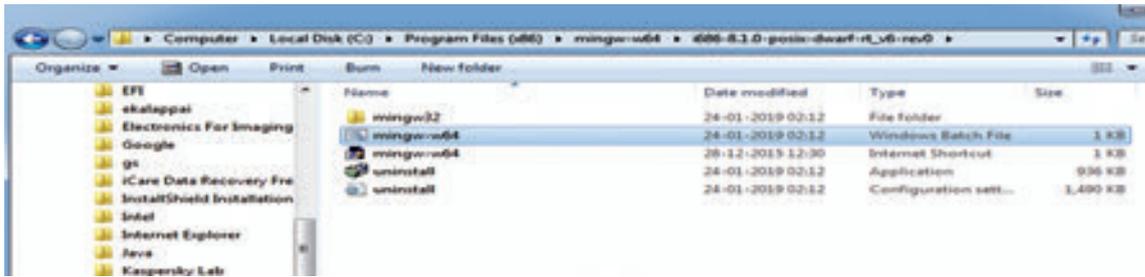
7. Click the button once it gets highlighted.



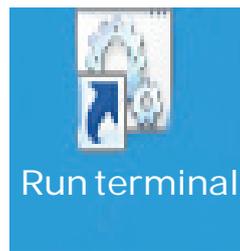
8. Locate the folder in your PC. For example here the mingw64 is present in the following path *c:\Program Files\mingw-w64*.



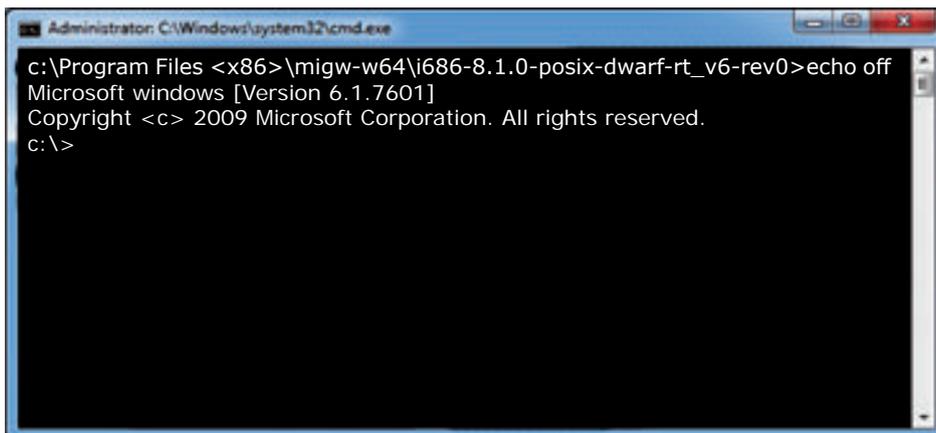
9. Open the folder and double click the batch file. The program will get executed.



- 10 A shortcut for run will be created in the desktop. Double click and open the “command window”.



- 11 Through this command **window only we have to execute the Python program** because it contains the other programming language program ie is C++. This command window dynamically invoke the g++ compiler to compile and execute C++ program using Python program



## ANNEXURE-4

### Installation of pip

First of all you need to identify whether pip is installed in your PC. If so, upgrade the pip in your system. To do this, you need to launch the command prompt. Before trying to install or upgrade the pip, the command will work only if you have appended the path of python directory in the path variable of the windows.



#### Check if pip is Installed

To check if pip is already installed in your system, navigate your command line to the location of Python's script directory.

You can install the latest version of pip from your command prompt using the following command:

#### Python -m pip install -U pip

-U represents upgrading pip to the latest version.

A screenshot of a Windows command prompt window. The title bar reads 'C:\Windows\system32\cmd.exe'. The command prompt shows the following text:

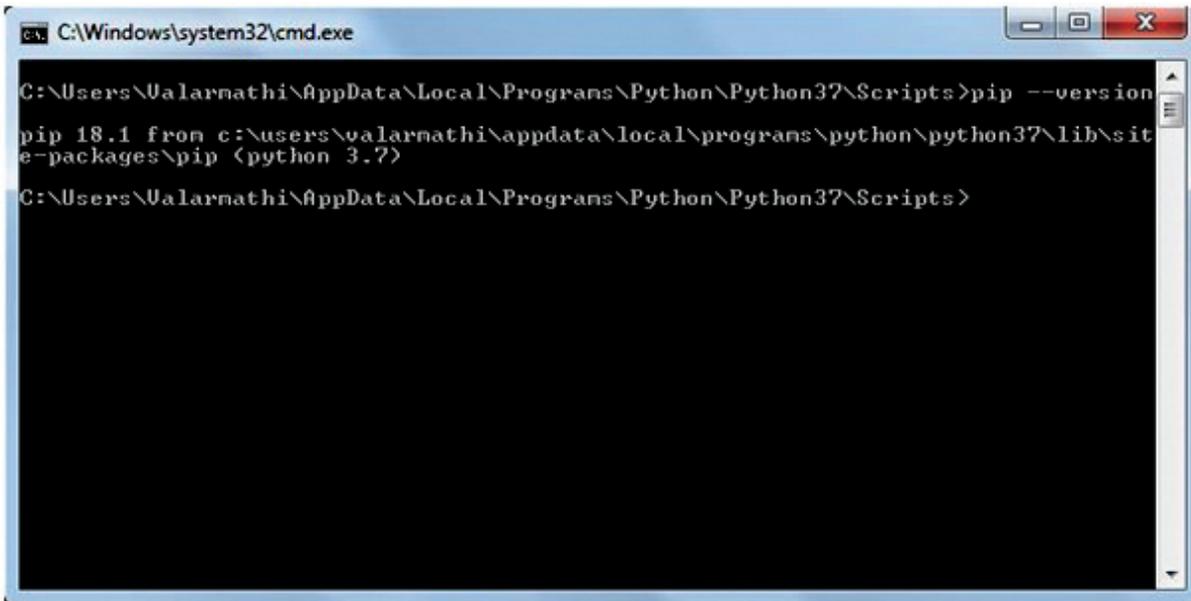
```
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37>python -m pip install  
-U pip  
Requirement already up-to-date: pip in c:\users\ualarnathi\appdata\local\program  
s\python\python37\lib\site-packages (18.1)  
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37>
```

To Check pip version:

To check the version of pip in your system, type the following command:

```
C:\Users\Your Name\AppData\Local\Programs\Python\Python36-32\Scripts>pip --version
```

The output in command prompt will look like this:



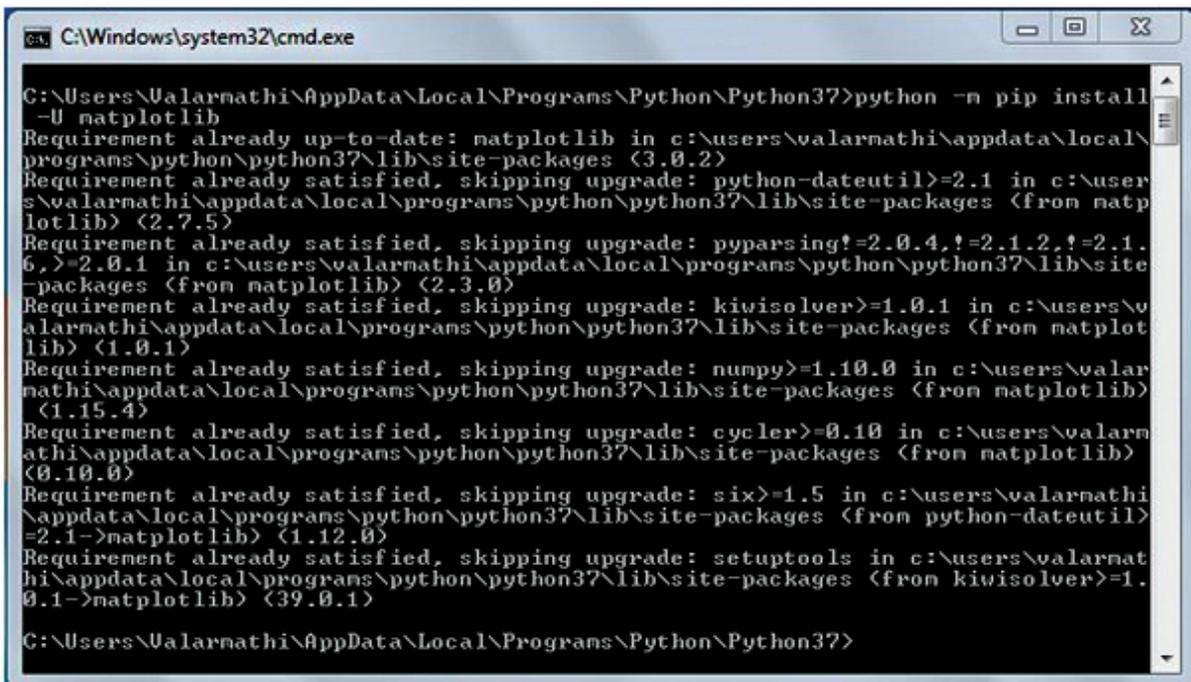
```
C:\Windows\system32\cmd.exe
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37\Scripts>pip --version
pip 18.1 from c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages\pip (python 3.7)
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37\Scripts>
```

You can see the version of pip installed from the output screen.

To install matplotlib, type the following in your command prompt:

```
Python -m pip install -U matplotlib
```

This command will download matplotlib from the source library. If it is already installed the screen will look like the following:



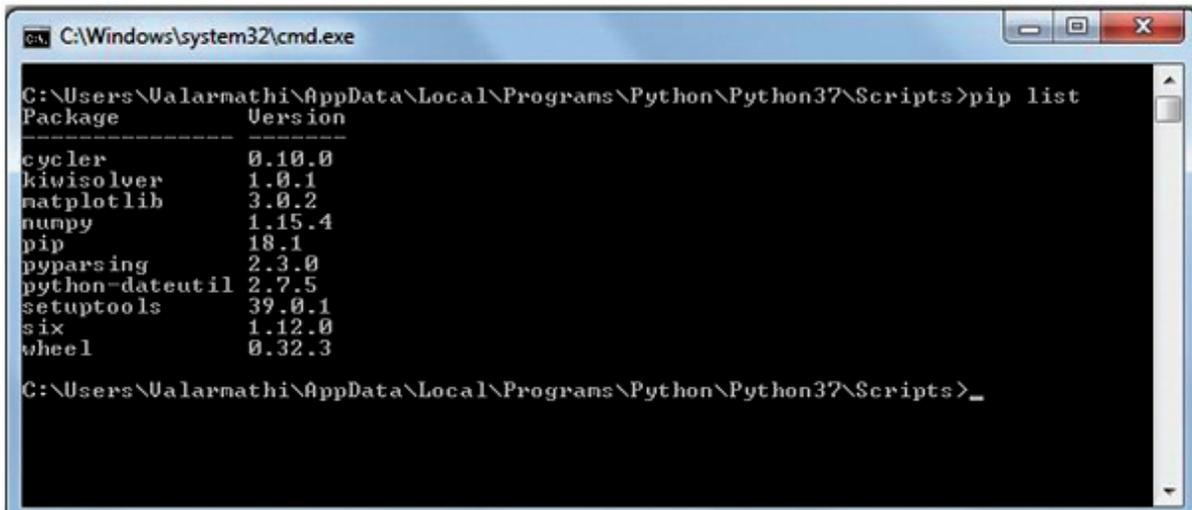
```
C:\Windows\system32\cmd.exe
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37>python -m pip install -U matplotlib
Requirement already up-to-date: matplotlib in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (3.0.2)
Requirement already satisfied, skipping upgrade: python-dateutil>=2.1 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from matplotlib) (2.7.5)
Requirement already satisfied, skipping upgrade: pyparsing!=2.0.4,!=2.1.2,!=2.1.6,>=2.0.1 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from matplotlib) (2.3.0)
Requirement already satisfied, skipping upgrade: kiwisolver>=1.0.1 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from matplotlib) (1.0.1)
Requirement already satisfied, skipping upgrade: numpy>=1.10.0 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from matplotlib) (1.15.4)
Requirement already satisfied, skipping upgrade: cycler>=0.10 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from matplotlib) (0.10.0)
Requirement already satisfied, skipping upgrade: six>=1.5 in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from python-dateutil) (1.12.0)
Requirement already satisfied, skipping upgrade: setuptools in c:\users\valarnathi\appdata\local\programs\python\python37\lib\site-packages (from kiwisolver) (1.0.1)
C:\Users\Ualarnathi\AppData\Local\Programs\Python\Python37>
```

## List Packages

To view the list of installed packages on your system, use the List command:

```
C:\Users\YourName\AppData\Local\Programs\Python\Python36-32\Scripts>pip list The
```

screen will display the list of all the packages installed on your system.



```
C:\Windows\system32\cmd.exe
C:\Users\Ualarmathi\AppData\Local\Programs\Python\Python37\Scripts>pip list
Package      Version
-----
cycloer      0.10.0
kiwisolver   1.0.1
matplotlib   3.0.2
numpy        1.15.4
pip          18.1
pyparsing    2.3.0
python-dateutil 2.7.5
setuptools   39.0.1
six          1.12.0
wheel        0.32.3

C:\Users\Ualarmathi\AppData\Local\Programs\Python\Python37\Scripts>_
```