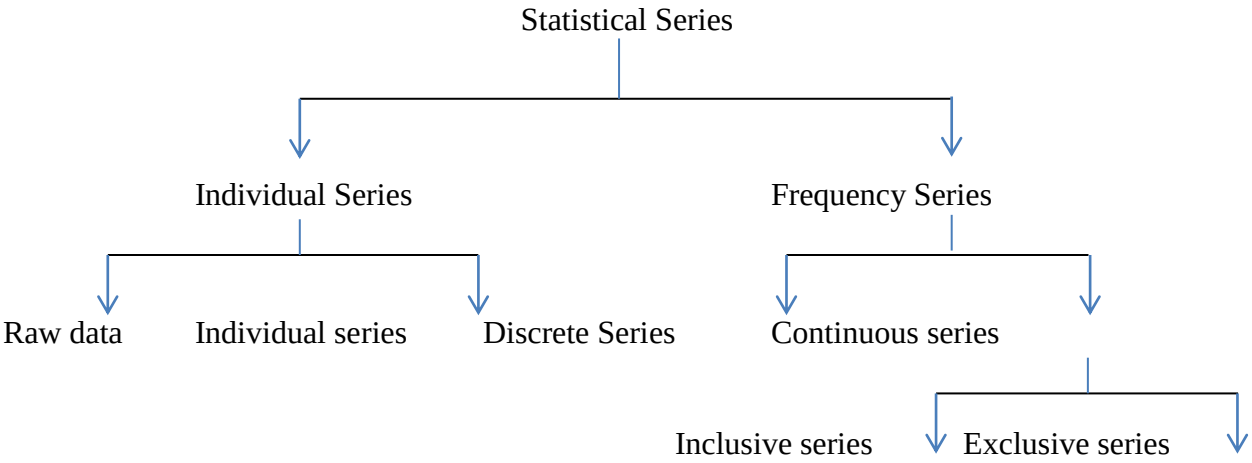
# Chapter 3: Organization of Data

1. Classification of Data: The process of grouping data according to their characteristics is known as classification of data.
2. Objectives of Classification:
   a] To simplify complex data
   b] To facilitate understanding

c] To facilitate comparison
d] To make analysis and interpretation easy.
e] To arrange and put the data according to their common characteristics.

3. Statistical Series: Systematic arrangement of statistical data




**I. Can be on the basis of individual units :**

The data can be individually presented in two forms:

i] Raw data: Data collected in original form.

ii] Individual Series: The arrangement of raw data individually. It can be expressed in two ways.

a] Alphabetical arrangement : Alphabetical order

b] Array: Ascending or descending order.

II. **Can be on the basis of Frequency Distribution:**

Frequency distribution refers to a table in which observed values of a variable are classified according to their numerical magnitude.

1. Discrete Series: A variable is called discrete if the variable can take only some particular values.
2. Continuous Series: A variable is called continuous if it can take any value in a given range. In constructing continuous series we come across terms like:

a] Class : Each given internal is called a class e.g., 0-5, 5-10.

b] Class limit: There are two limits upper limit and lower limit.

c] Class interval: Difference between upper limit and lower limit.

d] Range: Difference between upper limit and lower limit.

e] Mid-point or Mid Value: $\frac{\text{Upper limit - Lower limit}}{2}$

f] Frequency: Number of items [observations] falling within a particular class.

i] Exclusive Series: Excluding the upper limit of these classes, all the items of the class are included in the class itself. E.g., :

| Marks | 0-10 | 10-20 | 20-30 | 30-40 |
|---|---|---|---|---|
| Number of Students | 2 | 5 | 2 | 1 |

ii] Inclusive Series: Upper class limits of classes are included in the respective classes. E.g.,

| Marks | 0-9 | 10-19 | 20-29 |
|---|---|---|---|
| Number of Students | 2 | 5 | 2 |

Open End Classes : The lower limit of the first class and upper limit of the last class are not given. E.g.,

| Marks | Below 20 | 20-30 | 30-40 | 40-50 | 50 and above |
|---|---|---|---|---|---|
| Number of Students | 7 | 6 | 12 | 5 | 3 |

iii] Cumulative Frequency Series: It is obtained by successively adding the frequencies of the values of the classes according to a certain law.

a] <u>'Less than' Cumulative Frequency Distribution :</u>

The frequencies of each class-internal are added successively.

b] <u>'More than' Cumulative Frequency Distribution:</u>

The more than cumulative frequency is obtained by finding the cumulative totals of frequencies starting from the highest value of the variable to the lowest value.

E.g., :

| Marks | No. of Students |
|---|---|
| 0-10 | 2 |
| 10-20 | 5 |
| 20-30 | 10 |
| 30-40 | 12 |
| 40-50 | 17 |
| 50-60 | 4 |

| Marks | No. of Students |
|---|---|
| Less than 10 | 2 |
| Less than 20 | 7 |
| Less than 30 | 17 |
| Less than 40 | 29 |
| Less than 50 | 46 |
| Less than 60 | 50 |

| Marks | No. of Students |
|---|---|
| More than 0 | 50 |
| More than 10 | 48 |
| More than 20 | 43 |
| More than 30 | 33 |
| More than 40 | 21 |
| More than 50 | 4 |

**<u>1 mark questions :</u>**

1. What is meant by classification of data?
2. What is meant by discrete series?
3. What is meant by inclusive series?

**<u>3 mark questions:</u>**

1. Distinguish between Exclusive series and inclusive series.
2. Distinguish between discrete series and continuous series.

**4 mark questions:**

1. Construct a frequency distribution table for the following marks of 30 students in the form of a 4 continuous series according to exclusive method.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 33 | 23 | 25 | 18 | 35 | 37 | 49 | 54 | 51 |
| 37 | 15 | 37 | 15 | 33 | 42 | 45 | 47 | 55 | 69 |
| 65 | 63 | 46 | 29 | 18 | 37 | 46 | 59 | 29 | 35 |
| 45 | 27 | | | | | | | | |

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