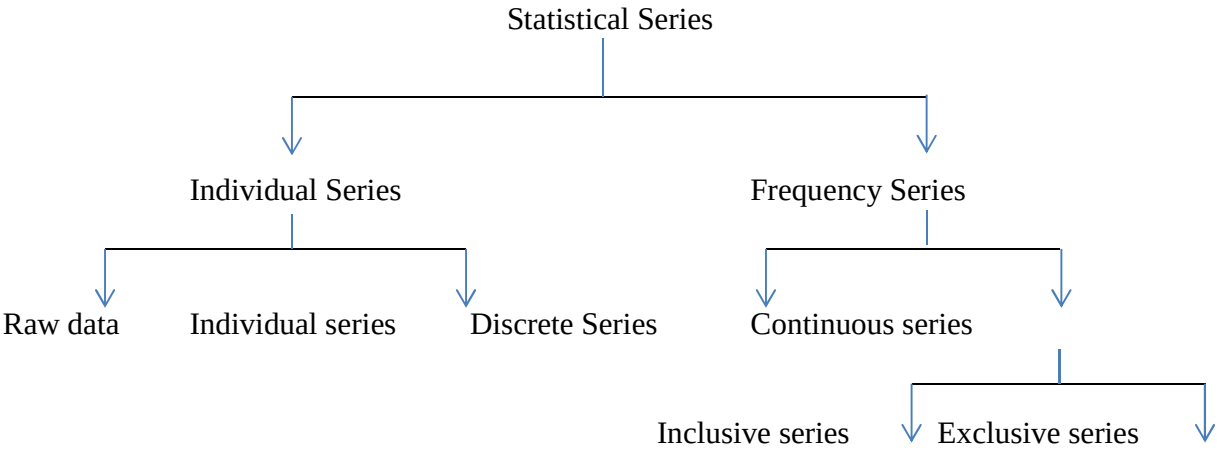
Chapter 3: Organization of Data

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] 'Less than' Cumulative Frequency Distribution :

The frequencies of each class-internal are added successively.

b] 'More than' Cumulative Frequency Distribution:

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

1 mark questions :

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

3 mark questions:

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								