

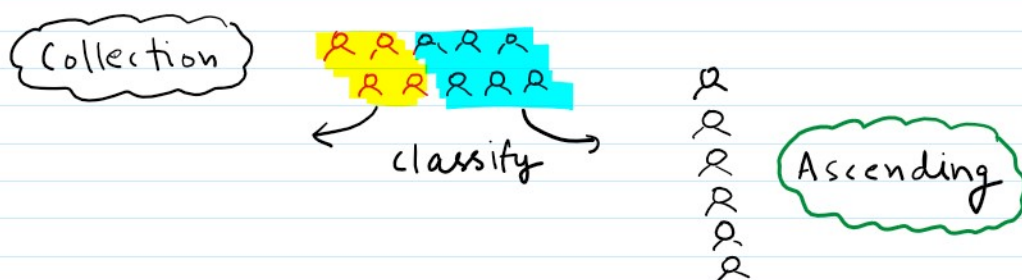
CH - Organisation of Data

(V. Imp)
(V. easy)

① Classification

→ The process of grouping data into different classes or subclasses according to characteristics is called classification.

→ The classified information arranged in a logical & systematic order in a particular sequence is called seriation or statistical series.



2. OBJECTIVES of classification

- To present the facts in a simple form.
- To bring out clearly points of similarity and dissimilarity.
- To facilitate comparison.
- To bring out relationship.
- To present a mental picture.
- To prepare the basis for tabulation.

3. Characteristics of Classification

3. Characteristics of Classification

→ Classification should be **unambiguous** i.e. there should be no room for doubt.

~~ambiguous / ambiguity~~

~~doubtful~~

→ The classes must **not overlap**

~~1 - 20~~
~~15 - 31~~

15, 16, ¹⁷18, 19, 20

→ Classification should be **stable** i.e. fit for comparison.

Class IX

Class X

Class XI

$\frac{22}{38}$

$\frac{44}{81}$

$\frac{72}{90}$

Comparison
☹️

Stable
(✓)

$\frac{61}{100}$

$\frac{41}{100}$

$\frac{11}{100}$

Fail
=

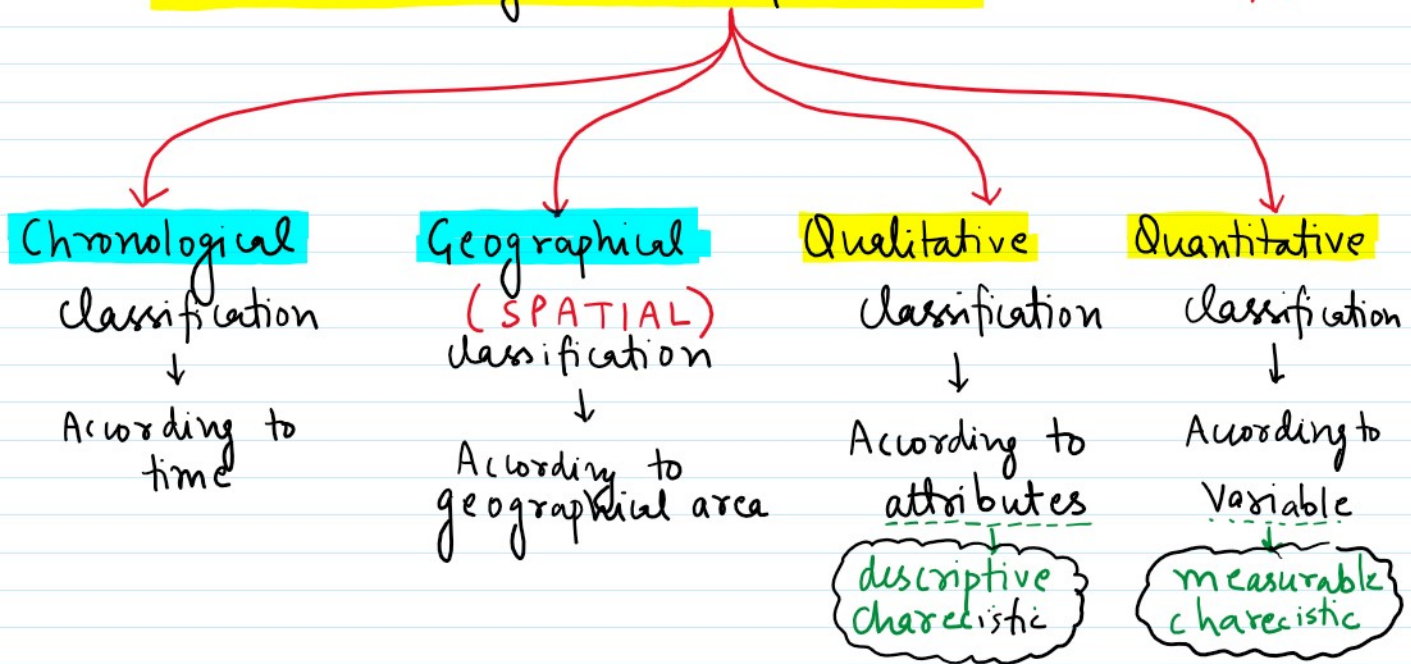
→ Classification should have **arithmetic accuracy**

Boys	Girls.	Total
5	3	10

☹️

4. Methods of Classification (V. Imp)

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eg 1:-

	India	Pakistan	Canada
Matches	123	84	61

Sol:- Geographical classification.

eg 2:-

	Male	Female
Number of workers.	52	73

Sol:- Qualitative classification.

eg 3:-

Wages	₹ 10	₹ 20	₹ 40
No. of workers	52	61	48

Sol:- Quantitative classification.

eg 4.

Year	Marks
2018	100

eg 4.

Year	Marks
2017	100
2018	80
2019	50
2020	30

Sol:- Chronological classification.

5.

VARIABLE

↓
The characteristic or phenomenon which can be measured and whose value changes with respect to time, place, individuals or items is called a variable.

DISCRETE
(Discontinuous)
Variable

↓
Countable

eg :- children in a family
can be either 2 or 3
or 4, but cannot
be 2.3 or 3.1

CONTINUOUS
Variable

↓
Measurable

eg :- weight,
Height,
TIME,
DISTANCE etc

⑥

STATISTICAL SERIES

(6)

STATISTICAL SERIES

{ A series may be defined as thing or attributes of things arranged according to some logical order. }

On the Basis of
General character

1. Time Series
2. Spatial Series
3. Condition Series

On the Basis of
Construction

1. Individual Series
2. Discrete Series
3. Continuous Series

Frequency Distribution

eg 1

Year	Production
2001	100 units
2005	140 units
2010	300 units

TIME
SERIES

eg 2

Country	Income
USA	500
India	10

SPATIAL
Series

eg 3.

Income	No. of workers
500 - 999	35
1000 - 1499	25

CONDITION
SERIES

1000 - 1499	25
1500 - 1999	44

SERIES

* On the Basis of Construction *

1. Individual Series

- According to Serial Number or Alphabets
- According to order of Magnitude i.e. Ascending or Descending order

eg:- following are the observations (Daily wages)
60, 100, 51, 35, 80, 75, 90

Sol:-

S. No.	Daily Wages
1	60
2	100
3	51
4	35
5	80
6	75
7	90

OR

Daily Wages
35
51
60
75
80
90
100

Ascending order

2. Discrete Series - Frequency distribution

eg.

children	No. of families
0	32
1	21
2	44
3	16
4	7

Q - Prepare frequency table from the following data

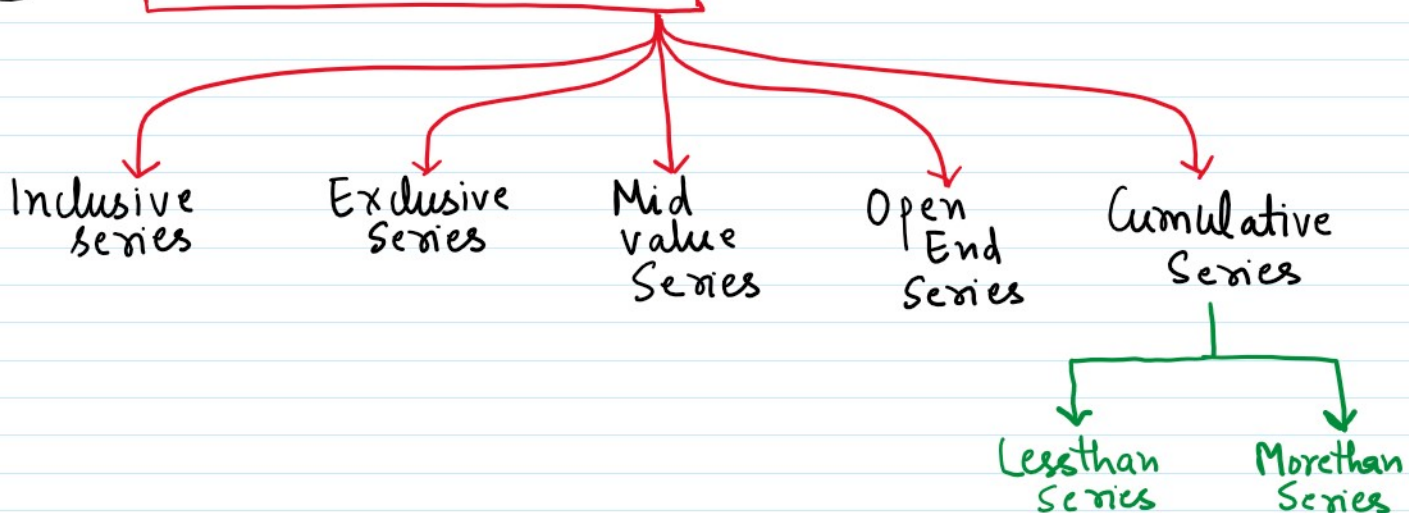
Q - Prepare frequency table from the following data

Marks :- 15, 16, 16, 17, 18, 17, 16, 18, 16, 15,
of 17 students. 17, 16, 17, 15, 18, 15, 16.

Sol:-

MARKS	Tally Marks	No. of Students (Frequency)
15		4
16		6
17		4
18		3
TOTAL		17

③ Continuous Series



eg (1)
upper class
limit
include
itself

Marks	No. of Students
5 - 9	24
10 - 14	32
15 - 19	17
20 - 24	5

INCLUSIVE
SERIES

eg (2)
upper class
limit
exclude
itself

Marks	No. of Students
5 - 10	24
10 - 15	32
15 - 20	17

EXCLUSIVE
SERIES

"limit
exclude
एक छे

10 - (15)	32
15 - (20)	17
20 - 25	5

SERIES

eg (3)

Marks	MID POINTS	No of Student
5 - 10	7.5	24
10 - 15	12.5	32
15 - 20	17.5	17
20 - 25	22.5	5

MID
VALUE
Series

$$\text{Mid Values} = \frac{\text{Lower class limit} + \text{Upper Class limit}}{2}$$

eg (4)

Marks	No. of Students
Below 20	14
20 - 25	23
25 - 30	11
Above 30	8

OPEN
END
SERIES

eg (5)

CUMULATIVE SERIES

Marks	No. of Student	Less than	No. of Student C. f	More than	No. of Student C. f
0 - 10	4	Less than 10	4	More than 0	60
10 - 20	8	Less than 20	12	More than 10	56
20 - 30	15	Less than 30	27	More than 20	48
30 - 40	20	Less than 40	47	More than 30	33
40 - 50	13	Less than 50	60	More than 40	13
Total	60				

Q1 :-

More than	No. of workers (C. f)
More than 100	40
More than 110	31
More than 120	25

More than 110	31
More than 120	25
More than 130	15
More than 140	8

Prepare exclusive Series.

Sol:-

C. I	No of workers
100 - 110	9
110 - 120	6
120 - 130	10
130 - 140	7
140 - 150	8

Q2 - Change the following into continuous series and convert the series into "Less than" and "more than" series

Mid Value	5	15	25	35	45	55
No. of student	8	12	15	9	4	2

Sol:-

C. I	f	Less than	cf	More than	cf
0 - 10	8	Less than 10	8	More than 0	50
10 - 20	12	" " 20	20	" " 10	42
20 - 30	15	" " 30	35	" " 20	30
30 - 40	9	" " 40	44	" " 30	15
40 - 50	4	" " 50	48	" " 40	6
50 - 60	2	" " 60	50	" " 50	2
	50				

Q3 - Prepare "more than" cumulative series.

Less than	10	20	30	40	50	60
No. of workers	17	22	29	37	50	60

cf

No. of workers	11	97	27	51	20	50
cf						

Sol:-

C. I	No. of Worker	More than	Cf
0 - 10	17	More than 0	60
10 - 20	5	" " 10	43
20 - 30	7	" " 20	38
30 - 40	8	" " 30	31
40 - 50	13	" " 40	23
50 - 60	10	" " 50	10
	60		

Q4. Prepare "less than" cumulative series

More than	100	110	120	130	140	150
No. of workers	48	44	30	13	5	1

Sol:-

C. I	f	Less than	Cf.
100 - 110	4	Less than 110	4
110 - 120	14	" " 120	18
120 - 130	17	" " 130	35
130 - 140	8	" " 140	43
140 - 150	4	" " 150	47
150 - 160	1	" " 160	48

x — x — x — x — x — x — x — x