

Data Interpretation

- Meaning –
- Types –
- Presentation and Tabulation -

What is Data ?

- The word “Data” is the plural form of the word *datum*. Datum is a Latin word which means ‘fact’.
- Data means fact or information qualitative and quantitative” regarding any studies.
- Data refers to any details regarding numerical records or reports.
- Example:-
 1. Suppose, if we go through the news paper we will observe different types of data like the records of temperature, rainfall and many other facts.

2. When a student perform an experiment in the laboratory he has to record some data.
3. In case of research work, a researcher records some data with the help of certain tools like questionnaire, interview schedule etc.

Such type of information or facts in terms of numerical are known as data in Statistics.

Types of Data

1. PRIMARY DATA

2. SECONDARY DATA

Primary Data:

- The term primary data refers to statistical materials collected by **original observation or measurement**.
- When the data are collected by the **investigator himself** that data is known as primary data.
- Examples -

Secondary Data:

- The term secondary data refers to the statistical material collected from outside and not by original observation.
- When the investigator uses the data which has already been collected by others such data are known as secondary data.

According to the nature and characteristics data classified into two –

1. **Ungrouped data** or discontinuous data
2. **Grouped data** or continuous data

Ungrouped data:

- This data are generally expressed in whole numbers
- Example:- numbers of book, no. of trees, no. of bird.
- These variable entire only a number of fixed values in whole number of unit.

Grouped data:

- Continuous data is that quality or character which can assume any numerical value within specific range (class/group).
- Example - age, height, weight, blood sugar level, intelligence level etc.

Presentation and Tabulation of Data:

After collection of data, next step is to present the data in a suitable form.

Why data presentation?

Data presentation is essential because the statistical in their raw form is always difficult to comprehend.

How to construct a Frequency Distribution Table:

The steps are-

1. Range:- First of all, the range of the series is to be found out. Range is a gap between the highest score and the lowest score.

$$\text{Range} = \text{Highest score} - \text{Lowest score}$$

2. Class Interval:- To get class interval, the Range is divided by the number classes required. Class interval is usually denoted by the symbol 'i' and is always a whole number. The formula for class interval is :

$$i = \frac{\text{Range}}{\text{No. of classes required}}$$

3. Contents of the Frequency Distribution Table

i. Writing the classes:

- In this step we have to write down all the classes of the distribution.
- Classes are either from the highest to lowest or from the lowest to the highest.
- Class-interval may be formed by Exclusive Method or Inclusive Method.

- ✓ According to **Exclusive Method**, the upper limit of class interval are excluded and included in the next class.
- ✓ According to the **Inclusive Method**, the upper limit of class interval are also included in the group.

(ii) Tally the scores- A tally marks is put in front the class interval where it is supposed to fall. Each represents one score. Four tallies when crossed by another tally represent five scores.

(iii) Frequencies- Frequency is usually denoted by letter 'f' and the tallies are frequency.

(iv) N- The sum of 'f' is called N that is the total number of frequencies.

Frequency Distribution Table

Class Interval	Tallies	Frequencies
		N =

Ex. 1: Fifty students of B. Ed. 2nd year obtained the following scores on a test. Tabulate the scores.

16	14	32	29	28	27	18	47	28	39
33	21	38	34	21	40	29	24	16	25
20	51	27	17	10	19	46	22	55	41
37	36	36	33	26	19	27	44	15	35
46	15	34	33	25	21	42	27	29	33

Solve:

16	14	32	29	28	27	18	47	28	39
33	21	38	34	21	40	29	24	16	25
20	51	27	17	10	19	46	22	55	41
37	36	36	33	26	19	27	44	15	35
46	15	34	33	25	21	42	27	29	33

Solve:

From the given scores we found, the Highest score = 55
and the Lowest score = 10

We know, **Range** = Highest score – Lowest score
= 55 – 10 So, Range = 45

We know the **class interval**, i.e. $i = \frac{\text{Range}}{\text{No. of classes required}}$
= $\frac{45}{10}$
= 4.5 approximately, 5

Class Interval	Tallies	f (Frequencies)
10 - 14	II	2
15 - 19	IIII III	8
20 - 24	IIII I	6
25 - 29	IIII IIII II	12
30 - 34	IIII II	7
35 - 39	IIII I	6
40 - 44	IIII	4
45 - 49	III	3
50 - 54	I	1
55 - 59	I	1
		N = 50

-- Home Work –

Question: Explain the procedure of presentation and tabulation of data with example.

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THANK YOU