

#### **TITLE OF E-CONTENT**



### **TABULATION OF THE DATA & FREQUENCY DIST.**

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## INTRODUCTION

The data collected for the purpose of a statistical inquiry some times consists of a few fairly simple figures, which can be easily understood without any special treatment. But more often there is an overwhelming mass of raw data without any structure. Thus, unwieldy, unorganised and shapeless mass of collected is not capable of being rapidly or easily associated or interpreted.

Unorganised data are not fit for further analysis and interpretation. In order to make the data simple and easily understandable the first task is not condense and simplify them in such a way that irrelevant data are removed and their significant features are stand out prominently. The procedure adopted for this purpose is known as method of classification and tabulation. Classification helps proper tabulation.

"Classified and arranged facts speak themselves; unarranged, unorganised they are dead as mutton".

- Prof. J.R. Hicks

# **Tabulation: Meaning and Definition**

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Tabulation may be defined, as systematic arrangement of data is column and rows. It is designed to simplify presentation of data for the purpose of analysis and statistical inferences.

# Major Objectives of Tabulation

- To simplify the complex data
- To facilitate comparison between group
- To economise the space
- To draw valid inference / conclusions
- To help for further analysis

# **Classification of Tables**

Classification is done based on

- I. Coverage (Simple and complex table)
- II. Objective / purpose (General purpose / Reference table / Special table or summary table)
- III. Nature of inquiry (primary and derived table).

# **Classification of Tables: Examples**

a) Simple table: Data are classified based on only one characteristic

Class Marks	No. of students
30 - 40	20
40 - 50	20
50 - 60	10
Total	50

Distribution of marks

b) Two-way table: Classification is based on two characteristics

Class Marks	No. of students				
	Boys	Girls	Total		
30 - 40	10	10	20		
40 - 50	15	5	20		
50 - 60	3	7	10		
Total	28	22	50		

## Differences between Classification and Tabulation

First data are classified and presented in tables; classification is the basis for tabulation.

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- Tabulation is a mechanical function of classification because is tabulation classified data are placed in row and columns.
- Classification is a process of statistical analysis while tabulation is a process of presenting data is suitable structure.

## **Frequency Distribution**

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Frequency distribution is a table used to organize the data. The left column (called classes or groups) includes numerical intervals on a variable under study. The right column contains the list of frequencies, or number of occurrences of each class/group. Intervals are normally of equal size covering the sample observations range.

It is simply a table in which the gathered data are grouped into classes and the number of occurrences, which fall in each class, is recorded.

### **Frequency Distribution: Definition & Classification**

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A frequency distribution is a statistical table which shows the set of all distinct values of the variable arranged in order of magnitude, either individually or in groups with their corresponding frequencies.

- Croxton and Cowden

A frequency distribution can be classified as;

- **A.** Series of individual observation
- **B.** Discrete frequency distribution
- **C.** Continuous frequency distribution

# A: Series of Individual Observation

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Series of individual observation is a series where the items are listed one after the each observation. For statistical calculations, these observation could be arranged is either ascending or descending order. This is called as array.

Ex:

Roll No.	Marks obtained in statistics paper
1	83
2	80
3	75
4	92
5	65

The above data list is a raw data. The presentation of data in above form doesn't reveal any information. If the data is arranged in ascending / descending in the order of their magnitude, which gives better presentation then, it is called arraying of data.

# B: Discrete Frequency Distribution

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If the data series are presented in such away that indicating its exact measurement of units, then it is called as discrete frequency distribution. Discrete variable is one where the variants differ from each other by definite amounts.

Ex:

Assume that a survey has been made to know number of post-graduates in 10 families at random; the resulted raw data could be as follows.

0, 1, 3, 1, 0, 2, 2, 2, 2, 4

This data can be classified into an ungrouped frequency distribution. The number of post-graduates becomes variable (x) for which we can list the frequency of occurrence (f) in a tabular from as follows;

Number of post graduates (x)	Frequency (f)
0	2
1	2
2	4
3	1
4	1

The above example shows a discrete frequency distribution, where the variable has discrete numerical values.

## C: Continuous Frequency Distribution

Continuous data series is one where the measurements are only approximations and are expressed in class intervals within certain limits. In continuous frequency distribution the class interval theoretically continuous from the starting of the frequency distribution till the end without break. According to Boddington ,,the variable which can take very intermediate value between the smallest and largest value in the distribution is a continuous frequency distribution.

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Ex:

Marks obtained by 20 students in students' exam for 50 marks are as given below – convert the data into continuous frequency distribution form.

18	23	28	29	44	28	48	33	32	43
24	29	32	39	49	42	27	33	28	29

By grouping the marks into class interval of 10 following frequency distribution tables can be formed.

Marks	No. of students
0 - 5	0
5 - 10	0
10 - 15	0
15 - 20	1
20-25	2
25-30	7
30 - 35	4
35 - 40	1
40 - 45	3
45 - 50	2

# **Selected Readings**

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