Statistics

(session-2)

Frequency Table :

A grouping of qualitative data into mutually exclusive classes showing the number of observations in each class.

A categorical column has raw data

Gender
Boy
Girl
Girl
Boy
Boy

Frequency table is a Tabular Representation of a categorical column.

Here we have the class and Frequency

Class :- Unique tables , we have boy and girl .

Frequency :- Number of Observations available per class.

Statement:

In a class there are 30 Girls and 50 Boys . How can you represent this on table.

Class	**Frequency**
Boys	50
Girls	30

Graph Represntation :

Bar chart :

- Bar chart or Bar plot or Bar graph.

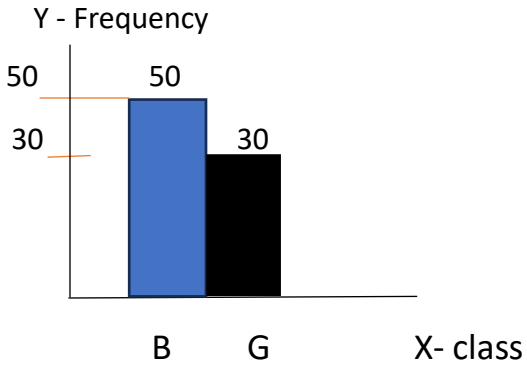
- Bar chart is a graph between class and frequency.

- Class is a categorical column represent as x-axis.

- Class frequency is numerical column represent as y-axis.

Statement :

In a class there are 30 Girls and 50 Boys . How can you represent this on bar chart.



Relative Frequency Table :

- Normalized form of the count / frequency.

- Normalized means the value between 0 and 1.

- In other words we can say the frequency represents in terms of percentage.

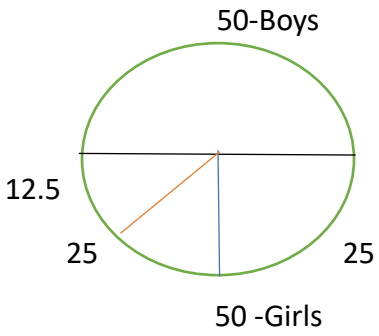
Class	Frequency	Relative frequency
Boys	50	$\frac{50}{80} * 100 = 62.5$
Girls	30	$\frac{30}{80} * 100 = 37.5$
	80	

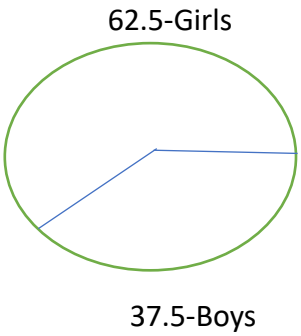
Pie Chart :

A chart that shows the proportion or percent that each class represents of the total number of frequencies.

Statement:

In a class there are 30 Girls and 50 Boys . How can you represent this on Pie chart .





Categorical Column :

- Tabular representation

    * Frequency table : Class vs Class Frequency

    * Relative Frequency : Class vs Normalized of frequency

- Graphical representation

    * Bar chart : Frequency table

        - X – axis : class
        - Y – axis : class frequency

    * Pie chart : Relative frequency

Numerical column Analysis :

In a class there are 6 Boys and 4 Girls .

They written a exam

Exam marks :

Marks : 50 55 59 65 70 71 79 85 90 95

How can we represent this :

Frequency table :

Class	Frequency
Boys	6
Girls	4

We can represent this in frequency distribution table

Frequency Distribution Table :

- Tabular representation of numerical data.

- It has class interval and interval frequency.

- Class interval also called as **bins.**

Marks(11) **:** 50 55 59 65 70 71 79 85 90 95

Class interval	Interval frequency
50 – 60	3
60 – 70	2
70 – 80	3
80 – 90	2
90 – 100	1

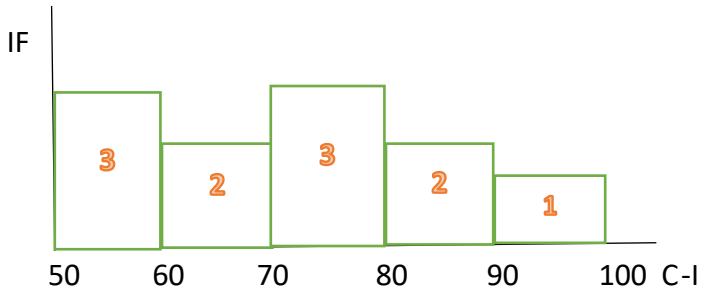
Graphical Representation of Frequency Distribution Table :

The three commonly used graphic forms are:

- Histograms
- Frequency polygons
- Cumulative frequency distributions

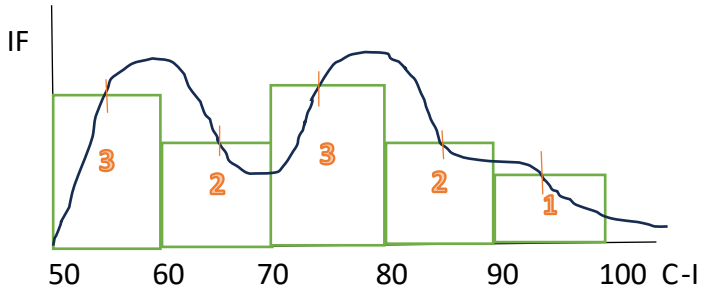
Histogram :

- Graph between class interval vs interval frequency.
- Class interval will be on the X – axis which is Numerical.
- Interval Frequency will be on the Y – axis which is Numerical.
- Numerical vs Numerical.



Histogram

Data Distribution :



Data distribution

Raw data ---> Frequency Distribution table ---> Histogram ---> Data Distribution
(CI VS IF)