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* Frequency :- The number of times a particular value of a variable is repeted in the data is called frequency of that value is denoted by f.

* Frequency distribution:-

The process or way in which the data are distributed in to various classes is called frequency distribution. In other word mode of variation of frequency in various classes is called the frequency distribution.

There are two types of distribution:-
If the variable consider as ~~be~~ discrete it is called discrete variable frequency. & if on the other hand variable is continues it is called as continuey frequency distribution. We count the frequency of the number of the class & hence the frequency.

e.g:- Construction of descrete frequency table for ungrouped data given below is the number of children an 30 family's

2, 1, 3, 1, 5, 2, 3, 4, 2, 1, 4, 3, 2, 2, 1, 3, 3, 2, 2, 1, 5, 4, 3, 3, 2, 1, 1, 3, 2, 3.

Solution :-

arranging the data in asending order of Magnitude.

1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3, 3, 3, 4, 4, 4, 5, 5,

No of children	Tally mark	Frequency no of families
1	~~IIII~~ II	7
2	~~IIII~~ IIII	9
3	~~IIII~~ IIII	9
4	III	3
5	II	2
		30

Problem :-

The following are the weight in kgs of a group of 32 Workers Construct a frequency distribution

42, 74, 76, 80, 96, 51, 83, 53, 69, 90, 75, 65, 49, 79, 67, 78, 77, 63, 61, 80, 66, 50, 60, 54, 73, 59, 70, 72, 40, 84, 76, 64

Solution :-

In the data so many figures from 40 to 96, are repeated so we construct grouped frequency distribution.

$N = 32$, $L = 96$, $S = 40$

i) According to sturges formula (no of classes (k) is given by

$$k = 1 + 3.322 \times \log(N)$$
$$= 1 + 3.322 \times \log(32)$$
$$= 1 + 3.322 \times 1.5051$$
$$= 6$$

ii) class width $c = (L-S)/k$

$$C = (96-40)/6$$
$$= 9.33$$
$$= 10$$

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Date / /

Weight in kgs	Tally Marks	No of Workers
40-50	III	3
50-60	~~IIII~~	5
60-70	~~IIII~~ III	8
70-80	~~IIII~~ ~~IIII~~	10
80-90	IIII	4
90-100	II	2
		32

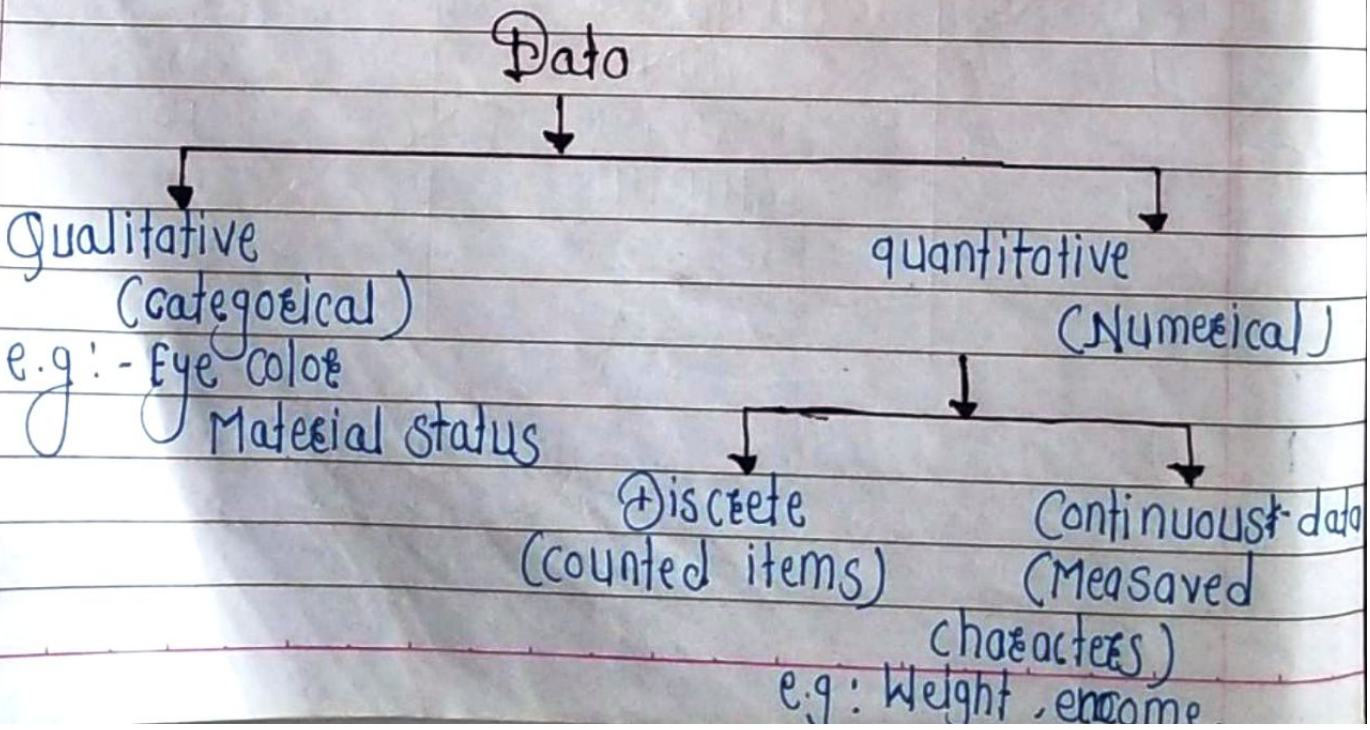
* qualitative data :-

A characteristics which cannot be measured / expressed in numbers is called as quality. A data collected arranged according to well defined qualaty is called as qualitative data.

e.g :- data regarding to satisfaction of a customer rich, poor, & superior. population by gender - Male - female person into rich & poor are qalitative data.

quantitative data :-

A characteristic which can be measured / expressed in numbers is called as quantity. for example : Weight, height, income, price & demand of item are quantities. A data collected according to any quantity is called as quantitative data. In quantitative data we talk about how many, how frequently or how much of something



Discrete 6

पुर्णांक

* Discrete variable :-

A variable which can be asume only some specific values within a given range is called discrete variable. A variable which takes only integer values is called discrete variable. for e.g :- populations, no of student in class, no of sales made by team, no of member in family.

* Continues variable :-

A variable which takes each and every value within a given range is called a continues variables. for e.g. height, weight, encome, sales, speed of car etc. A data which can be described by a continues variable is called as continues data.

Example :-

The following data given the number of people living in each of 60 building.

21, 50, 35, 39, 48, 46, 36, 54, 42, 37, 37, 32, 40, 34, 31, 35, 37, 52, 44, 39, 45, 34, 38, 53, 52, 46, 43, 47, 41, 26, 52, 48, 25, 45, 42, 36, 37, 54, 36, 41, 33, 23, 39, 28, 44, 29, 51, 34, 45, 25, 33, 40, 30, 35, 51, 45, 30, 33, 33, 52

prepare frequency table by taking class interval 20 to 24, 25 - 29.