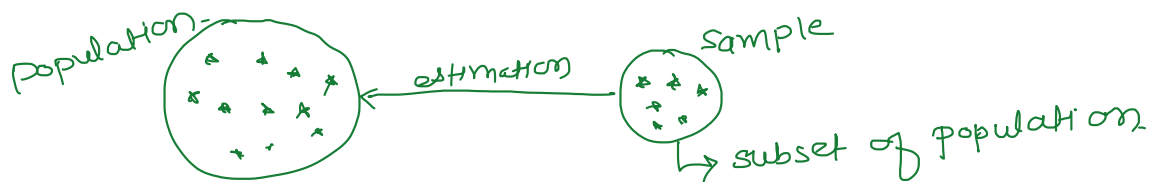# Population :- A set or a group of observations having simillar properties under statistical investigation is called as population.

Types of population

1] finite population :- If set or group contains finite or countable observations
ex No. of students class

2] Infinite Population :- If set or group contains infinite or uncountable observations.
ex. 1) no. of decimal in between 1 to 5
2) sugar particles in a sack

Sample :- A subset of population is a sample.

If we have large population. It is not possible to study whole population. so we take sample from the given population to investigate.

ex. ① While examining blood of an individual few drops are enough for diagnosis
.... like in theory

(2) Population :- No. of children below 10 yrs ..... ✓

Sample :- No. of children below 10 yrs whose height is less than 25ft

The method of collecting sample is called **sampling**

Definition :- A finite subset of statistical individuals in a population is called a sample. and number of individuals in a sample is called the sample size

Types of Sampling :-

Some of commonly known types of sampling are give below-

1> purposive sampling. - Samples units are selected with definite purpose.

Imp 2) Random sampling

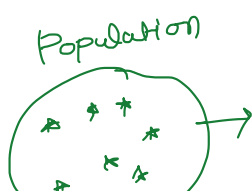3) Simple Sampling- :- Whole population is taken as single unit

4) stratified sampling :- hetrogenowse population
        for
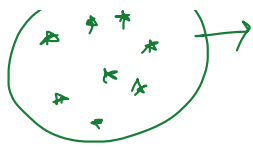
2] **Random sampling** :-

In this sampling, sample units are selected at random

" samples has an equal chance of being selected. is known as random sampling "

the sample is know as random sample.

Population

selection of each element has equal chance

selection 0

1] simple random sampling with replacement

2] simple random sampling without replacement.

Parameter & Statistic

* Statistical constant of population are called Parameters of the population.

ex. population mean, size, S.D. etc.

* Statistical constant of sample are called statistic of samples

ex. Sample mean, size, S.D. etc.

Population size $= N$	Sample size $= n$.
population mean $= \mu$	Sample mean $= \bar{x}$
S.D $= \sigma$	S.D $= S$
variance $= \sigma^2$	variance $= S^2$
proportion $= P$	proportion $= p$ or $\hat{p}$