- what is Statistics ?

Statistics is the Science of collecting, Organising and analyzing data.

- why we are using Statistics — Dersion

for getting the Better De cision making

- what is Data. ?

Data :- facts (or) pieces of information that can be measured

Eg :- The Age of student in the classroom.

{ 25, 24, 23, 24, 21, 22, 27 }

from above. we know that in this classroom we have the student who's age is in between the 27 — 21 only.

Types of statistics

① Descriptive stats

It consists of organising and summarising the data

② Inferential stats

Technique where in we used the data that we have measured to form conclusions

Ex. In classrom of maths student (20) no. of people

mark of in the 1st sem

84, 85, 81, 74, 95, 91, 90, 75, 80, 92, 97, 70, 88
- - - - - for 20 peoples

Eg.

what is the average marks of the student
in the classroom?

* best exple = for Descriptive stats

It maybe be mean, mode, it can be different

different things

Inferential stats

Ave. the mark of the student of this classroom. Similar to the mark of the another maths classroom in college ?

————————— X —————————

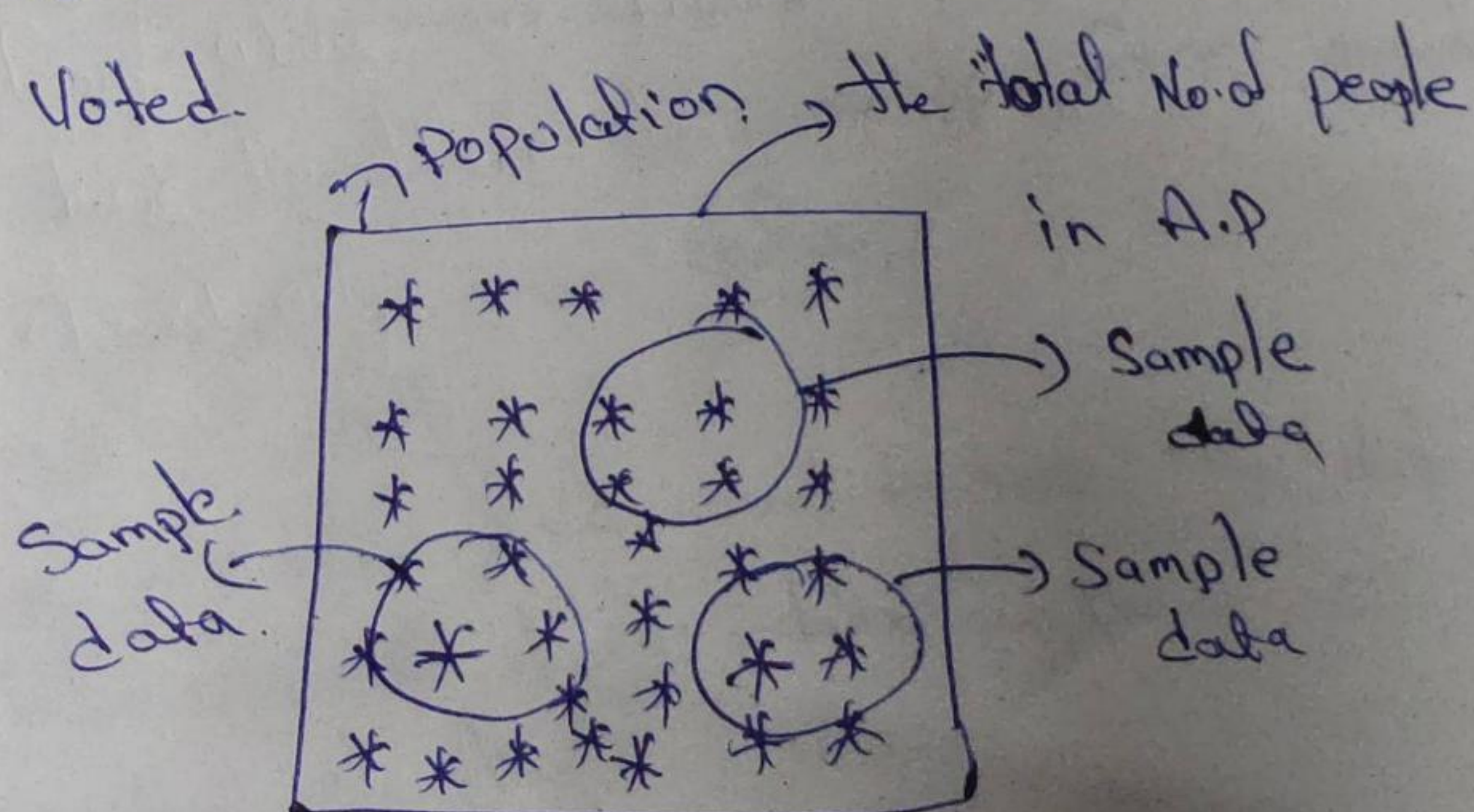# POPULATION AND SAMPLE
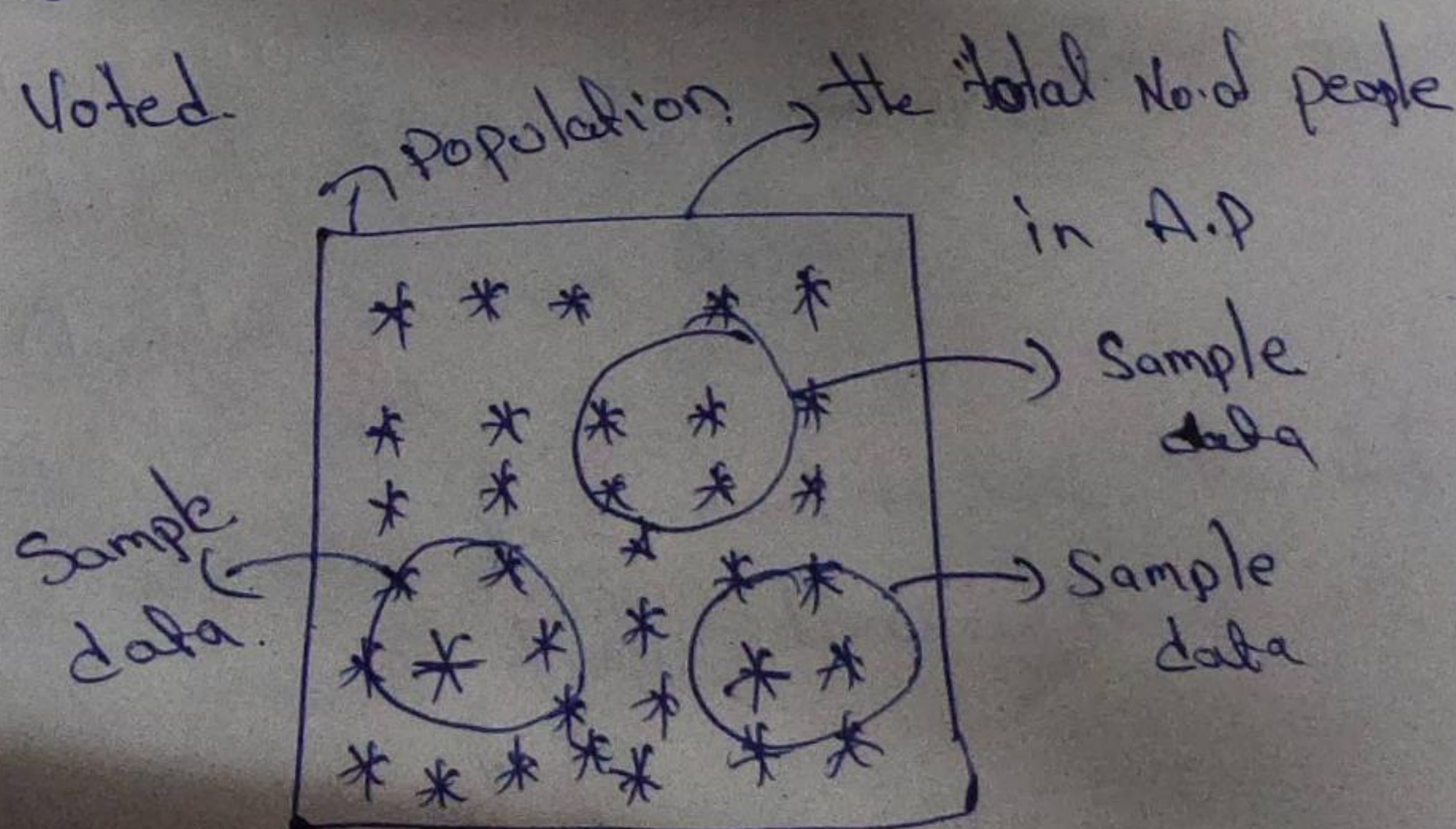
Example

General election

for example we will take the 2 state there are Andhra pradhesh (AP) and Tamil Nandu (TN)

Now

↗ change to win the party

we need to dotle Exit Poll.

and also we Know that we cannot go and ask to all the people we are Voting that whom you are Voted.

↗ Population → the total No.of people in A.P

Sample data

→ Sample data

→ Sample data

Er. Inferential stats
Ave. the mark of the student of this classroom. Similar to the mark of the another maths classroom in college ?

——————— × ———————

POPULATION AND SAMPLE

Example

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Sample
data

Sample
data

Sample
data

What are different types of Sample?
=

*** Before going type of Sample we need
to know

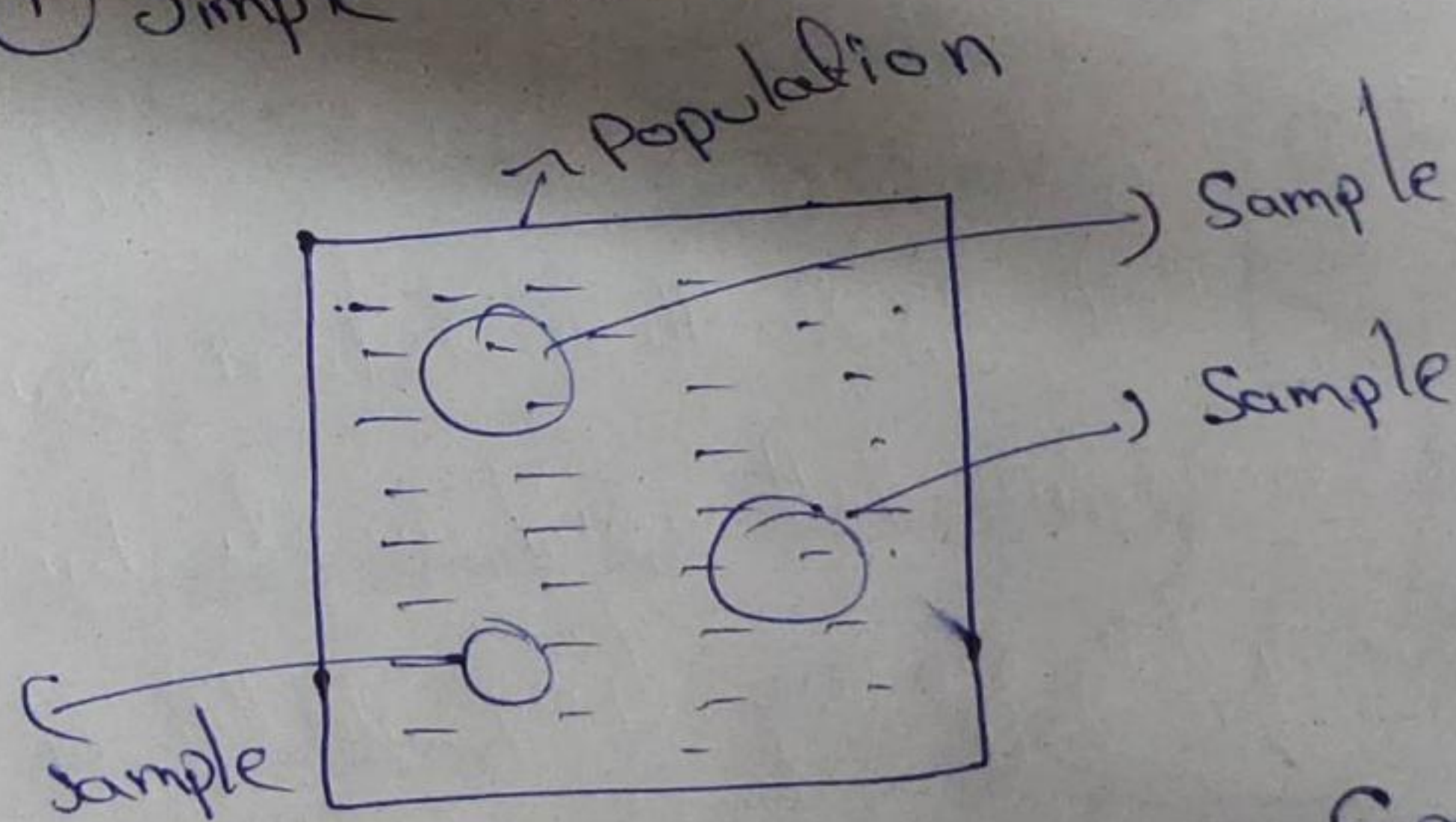Population (N)   Sample (n)

alway
   Population (N) > Sample (n)

Sampling Techniques

① Simple random Sampling

Here just we will pickup Some random
Samples in our data.
eg:- Exit poll
** suppose if we want to take the data
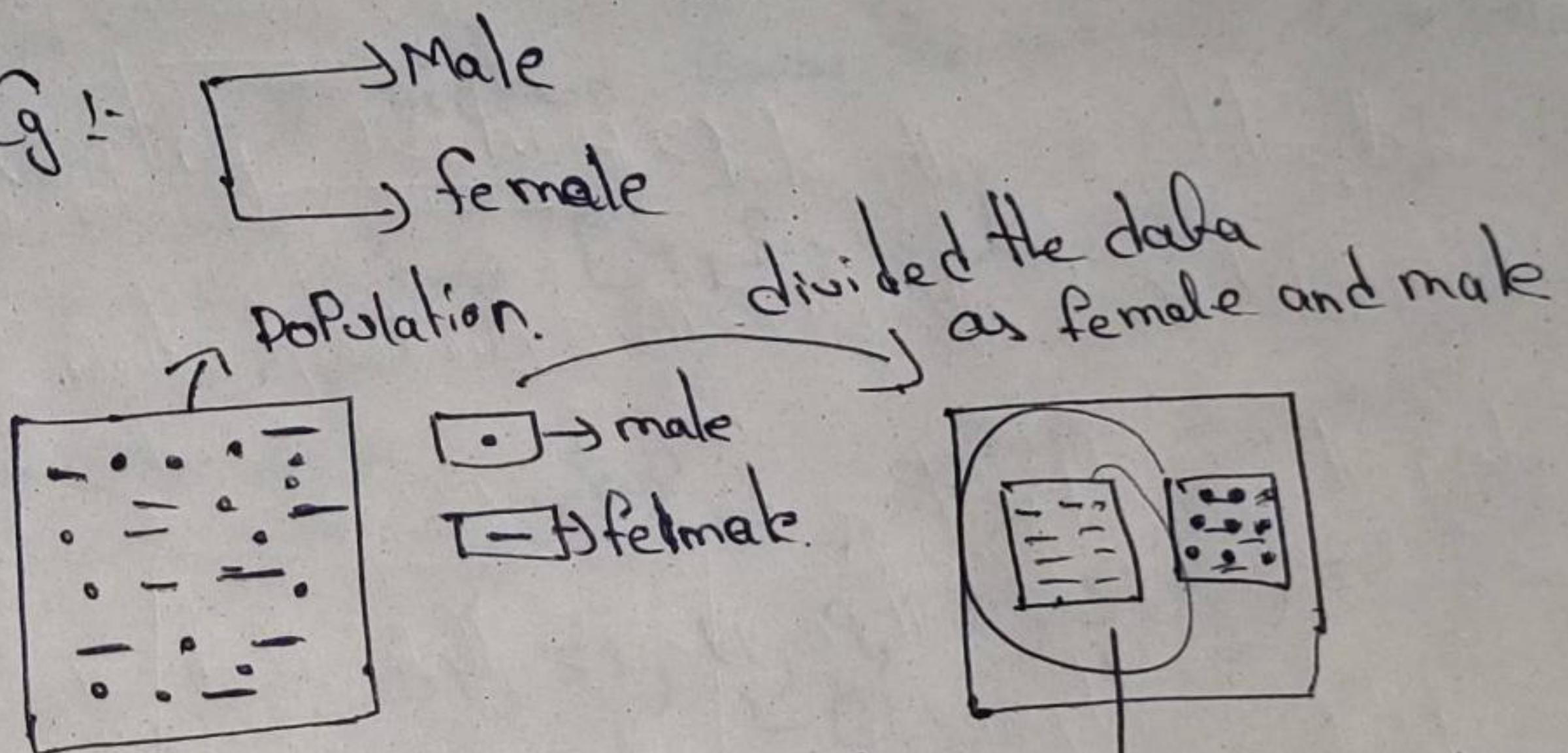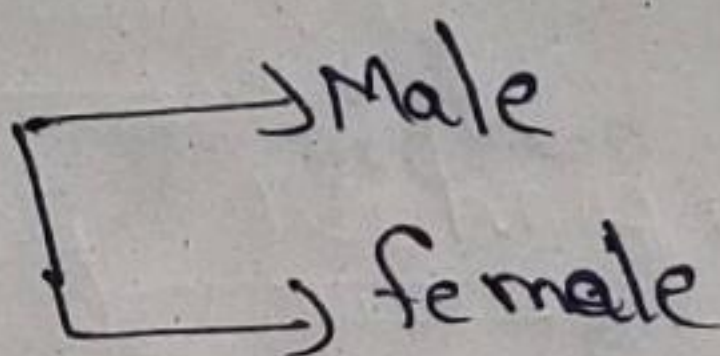for users of drugs data we cannot use the
random Sampling.

1) Simple Random Sampling

Every member of the population (N)
has an equal change of being
Selected for your Sample (n)
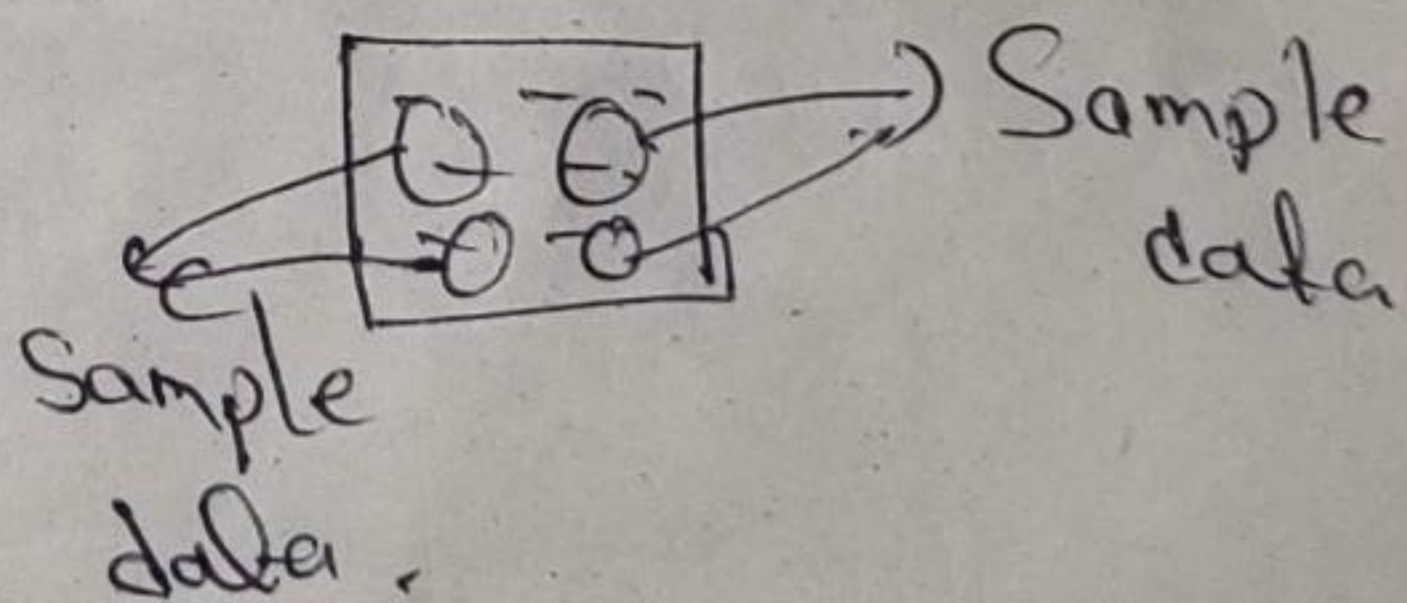
2) Stratified Sampling

where the population (N) is split
into non-overlapping grops (stvrata)

eg:-
- Male
- female

Population.

divided the data
as female and male

• → male
I → A felmale.

we are taking the Survey only
on "felmale"

So we are taking
female data

Sample data.

Sample data

eg Profevsion :- Doctor, Engineers,

③ Systematic Sampling

(N) ⟶ nth individual

∵ Here in our data we will pickup every nth individual data in Series manners

for example

In List

$$[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]$$

pickup → pickup → pickup →

N

n = 4

then we will pickup every 4 interval number.

here we pickup [4, 8, 12]

another example

$$[88, 75, 101, 81, 11, 9, 22, 5, 81, 99]$$

pickup → pickup → pickup →

n = 3

the here we pickup (n = 3) So we go!
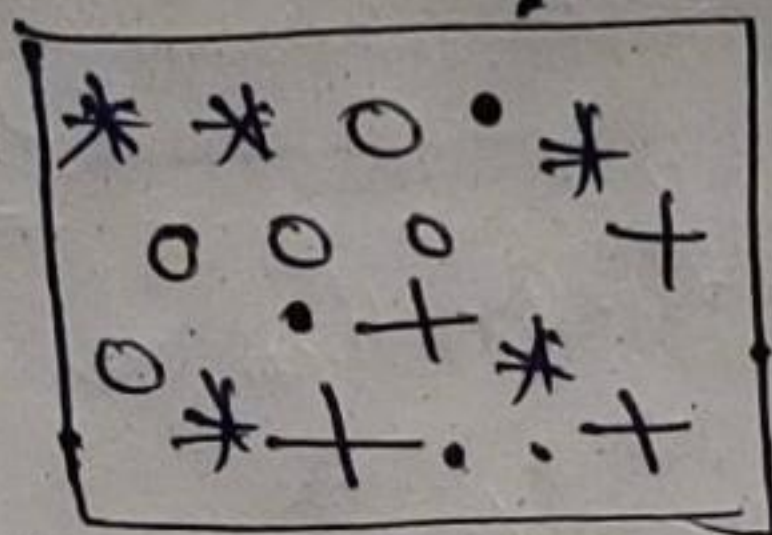
[101, 9, 81]

4) Convenience Sampling

In Convenience Sampling we take domain
& masters in that domain.

for example

In a IT Company we need the Data Science.
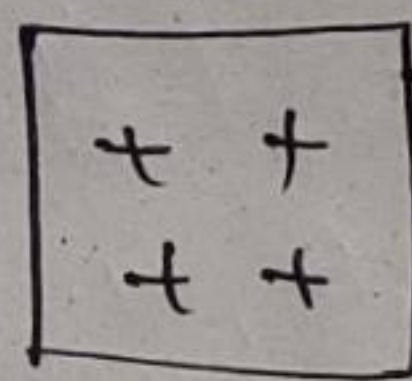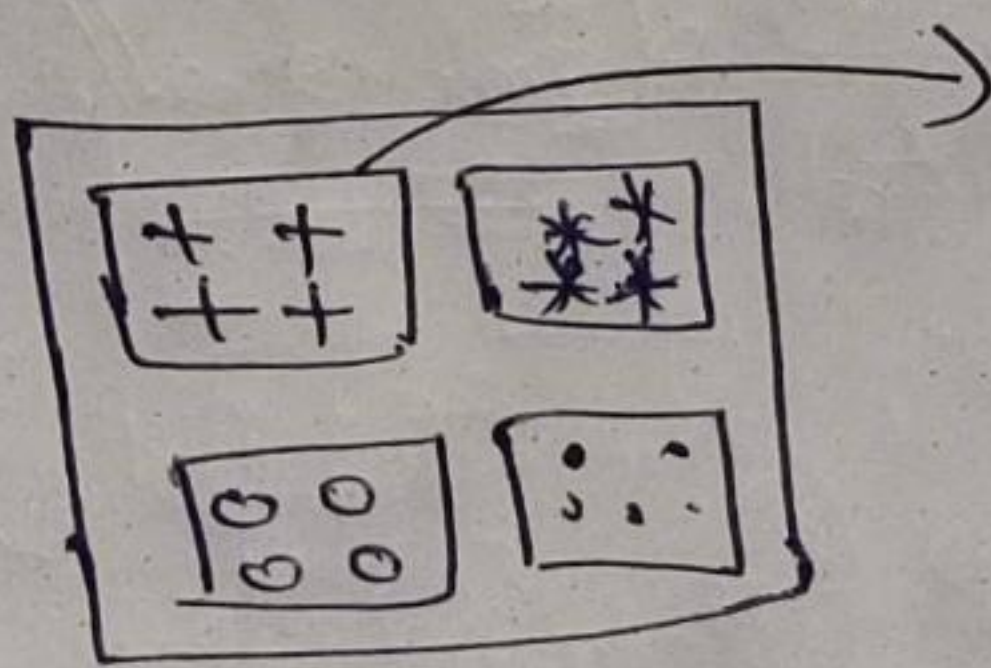
masters → data of IT company population.

[o] → Java
[+] → Data Science
[.] → Php
[*] → web deveople

we will take this Sample only