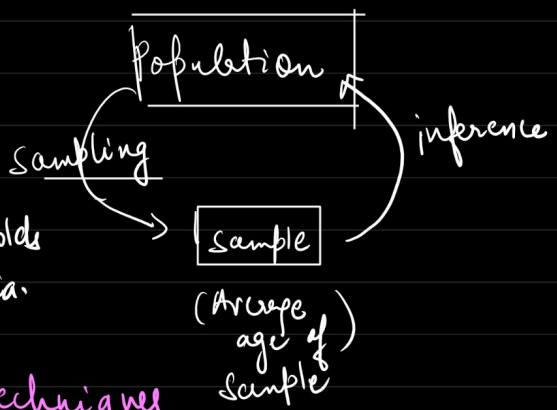
Types of Sampling

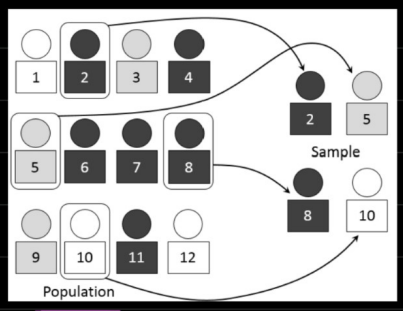


eg: income of all households in India.

↓

Sampling techniques

1. Simple Random Sampling
2. Stratified Sampling
3. cluster Sampling
4. systematic sampling.



① Simple Random Sampling

→ Every member of the population (N) has an equal chance of being selected in the sample.

* Each Person has $\frac{1}{N}$ of being selected in the sample

Disadvantage → A possibility of members not being part of sample from a certain group. / Not equal representation across groups.

Ex. Among 140 cr people in India, while taking sample using SRS, members from the smaller states / less populated States might not be selected in sample.

② Stratified Sampling

↓

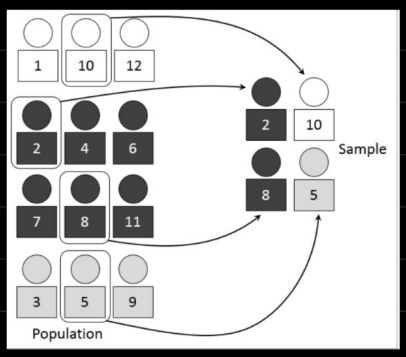
Strata → Layers / groups.

Avg wt of population of India : 9th SRS

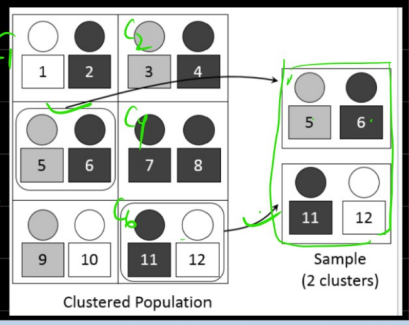
the people of North East India have lesser strength, that's why they might be ignored. → Stratified sampling

→ different distinct categories are there

→ A simple random sample would be chosen from each strata or layer.



③ Cluster Sampling



→ divides the population into groups or clusters, Some of these clusters are randomly selected

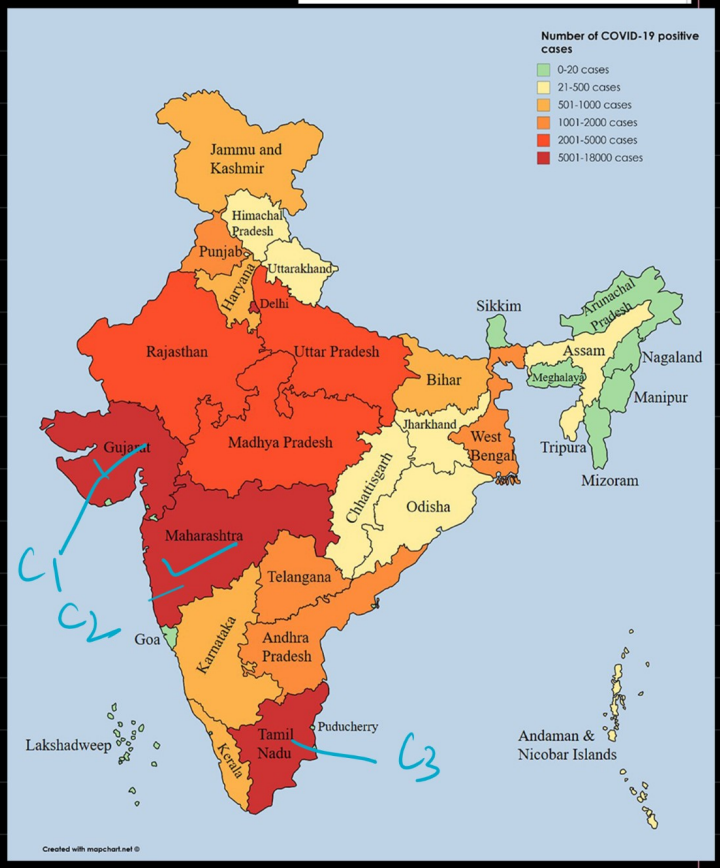
→ Then all the individuals in the chosen cluster are selected in the sample.

Eg No of highest covid cases

↳ all dark red states.

(Gujarat, TamilNadu, Maharashtra)

Gujarat, Maharashtra → All of the member of Gujarat will be part of sampling.

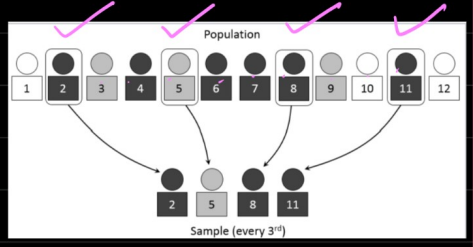


④ Systematic Sampling

→ Every n^{th} element will be selected

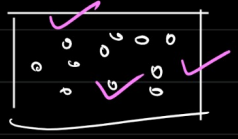
Example → Odd roll no

→ People born on odd year.



Summary

→ SRS



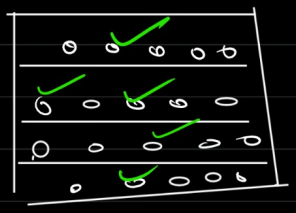
→ Quota Sampling
→ Minimax Sampling
→ Convenience sampling
→ Accidental Sampling.

→ Stratified Sampling

eg: Students of a school → class 1, 2, 3 ---10

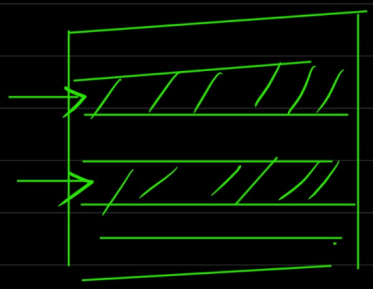
eg: Population of India.

eg: Gender: Male/female



→ Cluster Sampling

↳ All the data of randomly selected clusters as sample



→ Systematic sampling

↳ every n^{th} member

eg: Students born in leap year