61. What are the criteria that Binomial distributions must meet?

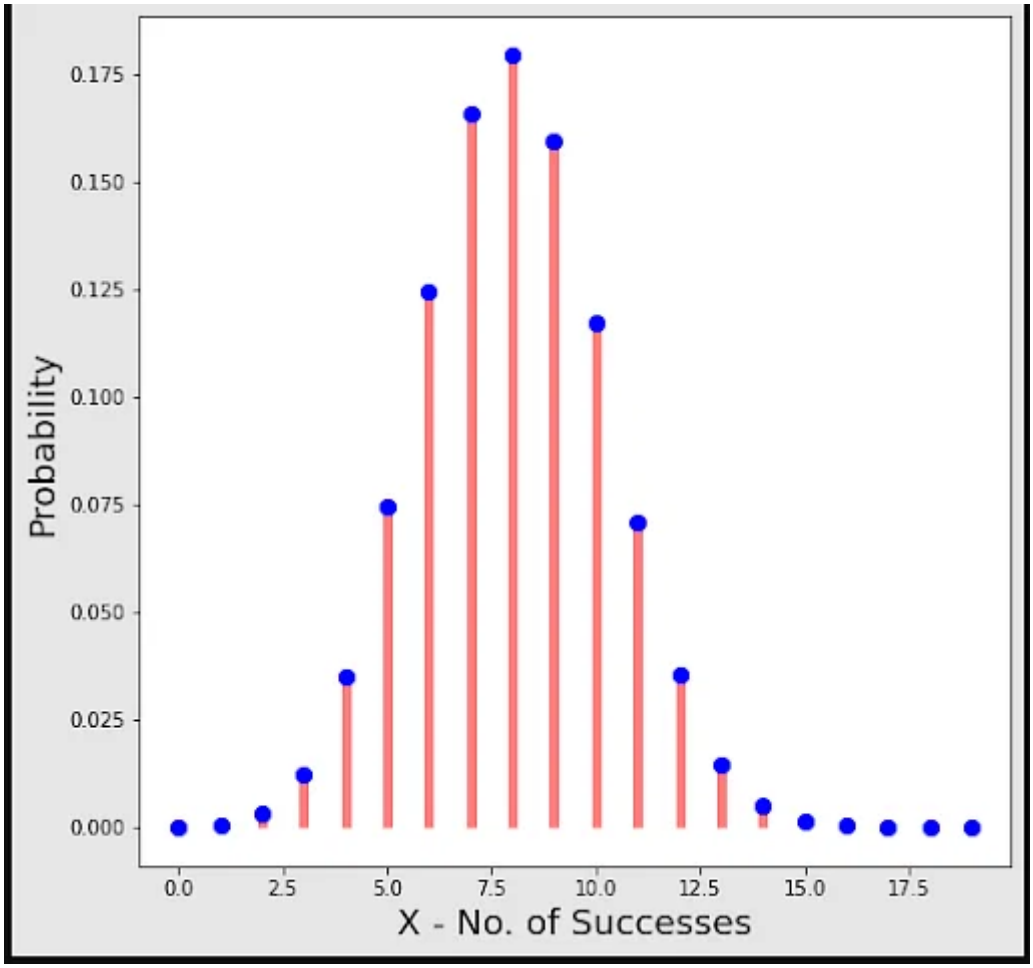
Ans.

Binomial distribution must follow

i. The number of observations must be fixed

ii. Each observation should be independent

iii. Each observation must have two outcomes ‘success’ or ‘failure’



62. What are the examples of symmetric distribution?

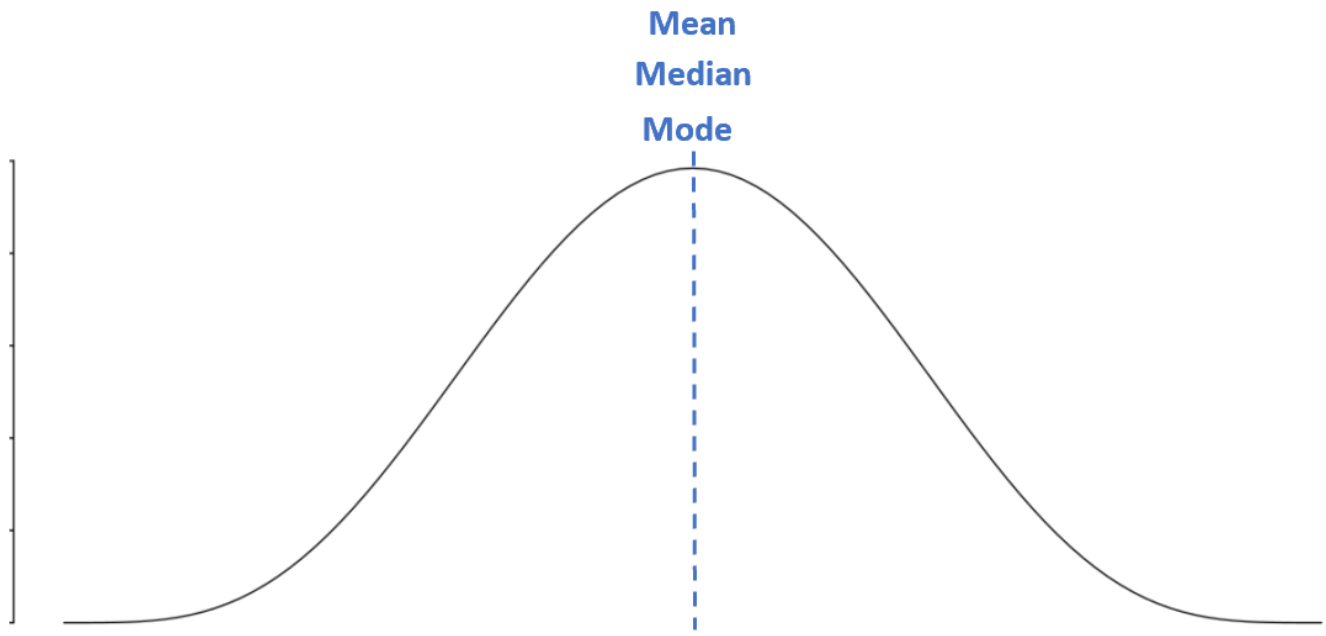
Ans.

Most of the dataset follow symmetric distribution

i. Height of the population

ii. Shoe size

iii. Birth height



63. How to find the mean length of all fishes in the sea?

Ans.

i. Define the confidence level (most common is 95%)

ii. Take a sample of fishes from the sea (to get better results the number of fishes > 30)

iii. Calculate the mean length and standard deviation of the lengths

iv. Calculate t-statistics

v. Get the confidence interval in which the mean length of all the fishes should be.

64. What are the types of sampling in Statistics?

Ans.

Types of sampling in statistics

i. Simple Random sampling

ii. Symmetric sampling

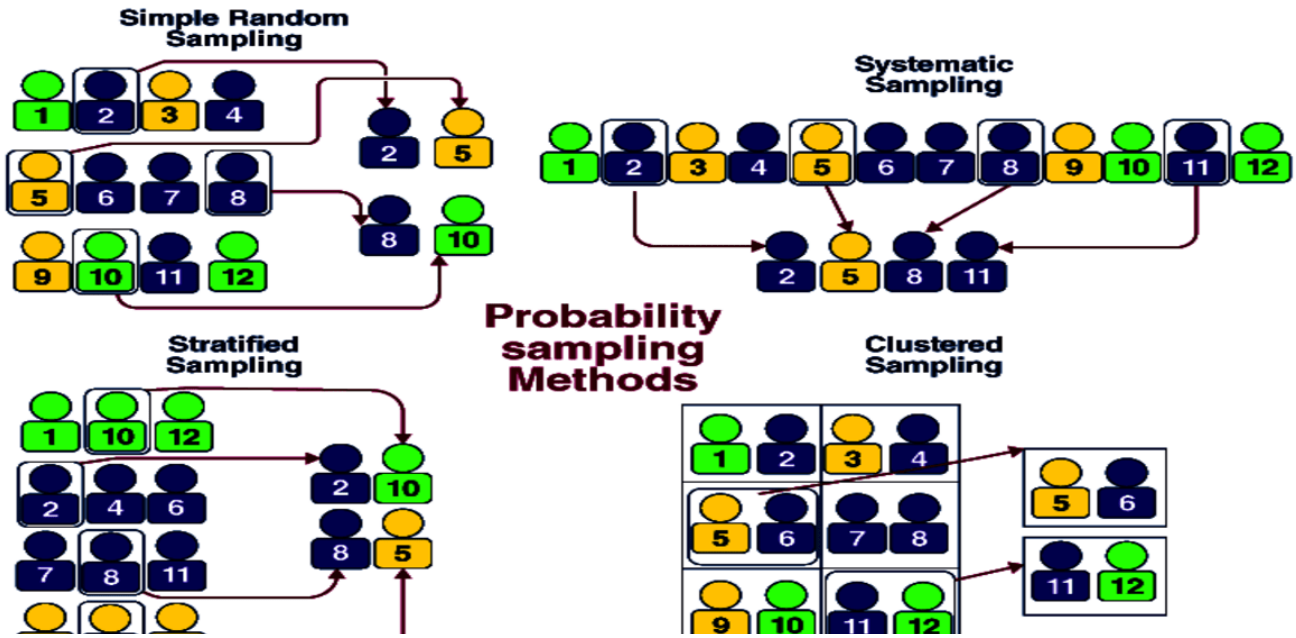
iii. Stratified sampling

iv. Cluster sampling

v. Convenience sampling

vi. Purposive sampling

vii. Snow ball sampling



65. Why is sampling required?

Ans.

Sampling is required because you can not gather the data of entire population. Even though the population is small, if you ned data urgently then it'll take time. So sampling is required.

66. How do you calculate the needed sample size?

Ans.

To calculate the needed sample size

i. Determine the total population size

ii. Decide the margin of error

iii. Choose a confidence interval

iv. Pick a standard error

v. Calculate sample size

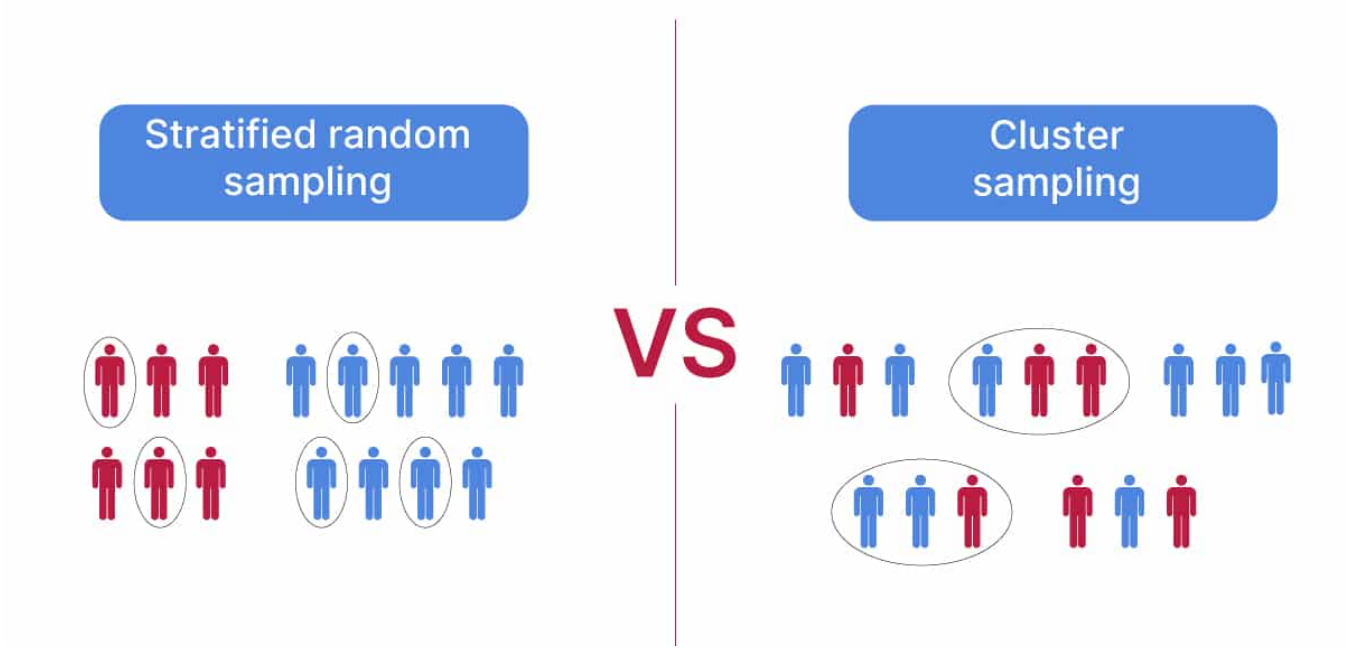
$$Necessary\ sample\ size = \frac{(Z\ score)^2 \times standard\ deviation \times (1 - standard\ deviation)}{(margin\ of\ error)^2}$$

67. Can you give the difference between stratified sampling and clustering sampling?

Ans.

i. In stratified sampling we select samples from non-overlapping groups.

ii. In clustering sampling we select samples from randomly selected groups from population data.



68. Where is inferential statistics used?

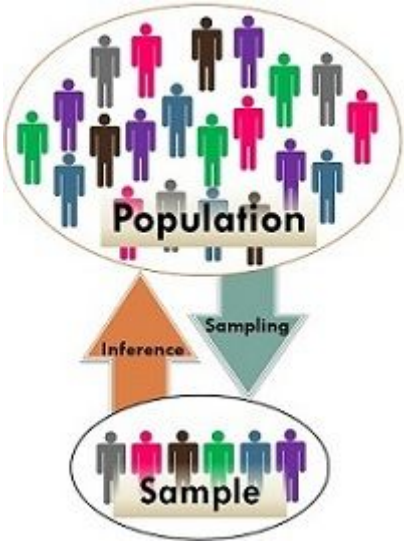
Ans.

Inferential Statistics used to make conclusion/inferences about population using sample data.

69. What are population and sample in Inferential Statistics, and how are they different?

Ans.

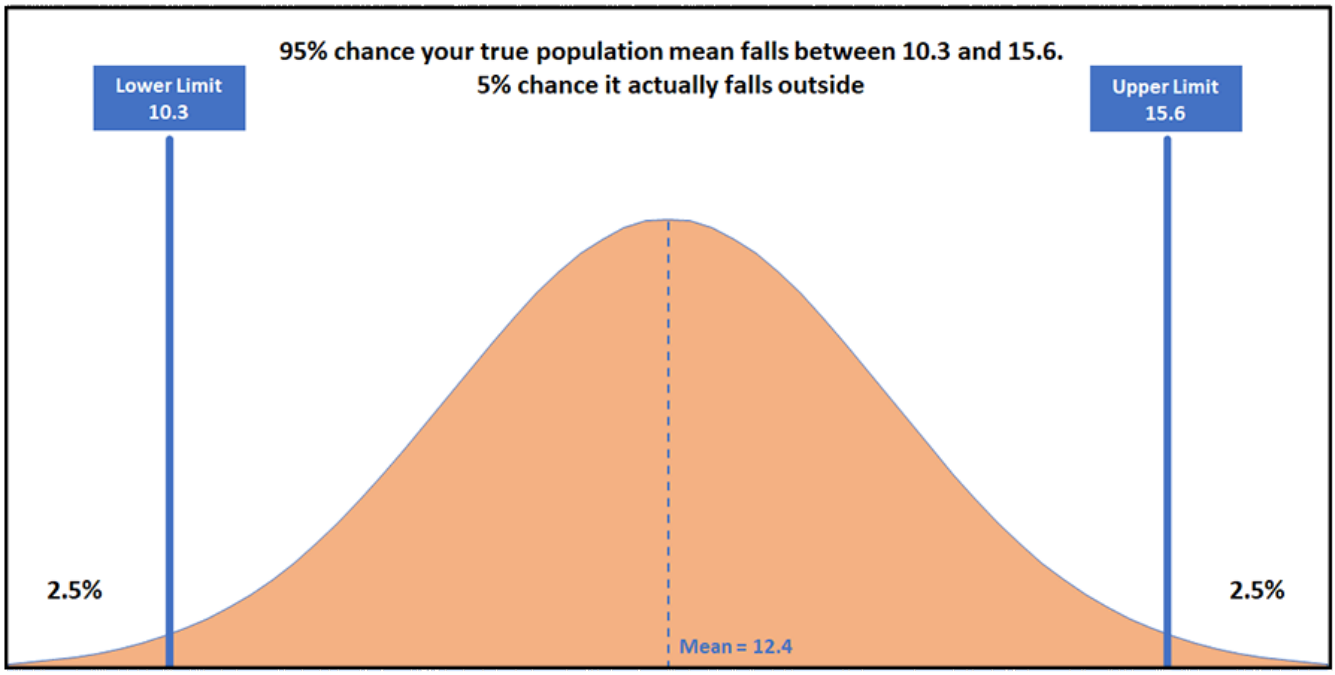
In inferential statistics population is the larger group for which we want to estimate the numerical characteristics. And sample is the group based on which we will estimate the value.



70. What is the relationship between the confidence level and the significance level in statistics?

Ans.

The confidence level is equivalent to 1. So, if the significance level (error we can tolerate) is 0.05% the corresponding confidence level is 95%. If P value is less than your significance(alpha) level, the hypothesis test is statistically significant.



In [ ]:

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Thanks

Github: https://github.com/saisubhasish (https://github.com/saisubhasish)

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