Q1. What is probability distribution?

Graphical representation of a random variable on x axis and the corresponding probabilities on y axis.

Q2. Probability distributions are classified into how many major types

2 types: Continuous and Discrete

Q3. What is Normal distribution

Normal Distribution is a type of Continuous probability distribution

Q4. Properties of Normal distribution

It has a bell-shaped curve which is symmetrical across measures of central tendency.

Mean = median= mode

The total area under the **curve** is 1.

Q5. Normal distribution is characterized by

Mean and Standard Deviation

Q6. Notation used to represent Normal distribution

N(mu, sigma)

Q7. Properties of standard normal distribution

A Normal distribution with mu= 0 and sigma=1

Q8. How is standard normal distribution represented

N(0,1)

Q9. What are the other applications of scale function?

To make your data scale free and unit free.

Q1. What is Confidence Interval?

A Confidence Interval is a range of values we are fairly sure our true value lies in.

Q2. What is Margin of Error

A small amount of error that is allowed to express the sampling error.

MOE= z\*sigma/sqrt(n)

Q3. Formula for standardization

z=x-mu/sigma

Q4. What is 1-alpha

Confidence level

Q6. Function to calculate z value in Python

scipy.stats.norm.cdf()

Q7. What we do if population standard deviation, sigma is not known

Resort to sample standard deviation and t distribution

Q8. Characterize t distribution

The t-distribution is symmetric and bell-shaped, like the normal distribution, but has heavier tails and charactered by degrees of freedom

Q9. Function to calculate student’s t-dist in Python

scipy.stats.t.cdf()

Q10. How to interpret the findings from sample data for population

by calculating confidence interval.

Q1. What does Hypothesis testing mean?

Hypothesis testing is a statistical method that is used in making statistical decisions using experimental data.

Q2. Condition of Null hypothesis

No Action Condition/Status Quo

Q3. Condition for Alternate hypothesis

Take action condition / There is a change

Q4. Hypothesis test is done on sample, but statements are written/ applied for population: True/False ?

True

Q5. What are the steps involved in Hypothesis testing?

Identification business problem

Data collection

Define hypothesis statements

Choose the test

Check the P value

Compare with alpha value and conclude the decision