1. What is inferential statistics?

→ inferential statistics is a branch of statistics where you can predict inferences about a population

2. What is hypothesis testing and its components?

→ hypothesis testing is a method used to decide whether there is enough evidence in a sample to support a claim about a population

Terms

Null hypothesis (H_0)

Alternative hypothesis (H_1)

Significance level (α)

critical Value

Disicion

3. Explain confidence interval and critical Value

→ confidence interval is range of values within which population parameter is expected to lie, with level of confidence

critical Value is the cutoff point on sampling distribution used to decide whether to reject Ho

4. Define P-Value

P-Value is the Value at which you can you can decide hypothesis

$P > \alpha$ Reject
$P \leq \alpha$ accept

5. Differentiate Type I and Type II errors

	True	False
Positive	True Positive	False Positive (I)
Negitive	True Negitive (II)	False Negitive

Type I error :- It say it works but it doesn't

Type II error :- It say it does not works but it does

6 Brief description of Z-test, t-test, chi-square test, and ANOVA test

⟹ This are the test used for hypothysis testing.

* for Z-test

Population Variance
Sample > 30
Population mean

* for T-test

used when Population Variance is unknown

Small sample < 30

* chi-square test

used for categorical data

* ANOVa Test

used for 3 or more groups mean comparision

7 What is covariance?

covariance is a directional relation between two Variable

Positive covariance ⇒ Same disodion

Negitive covariance ⇒ opsite direction

8 What is correlation?

correlation is tell you both strength and direction of a relationship between to two Variables

like an upgraded version of correlation