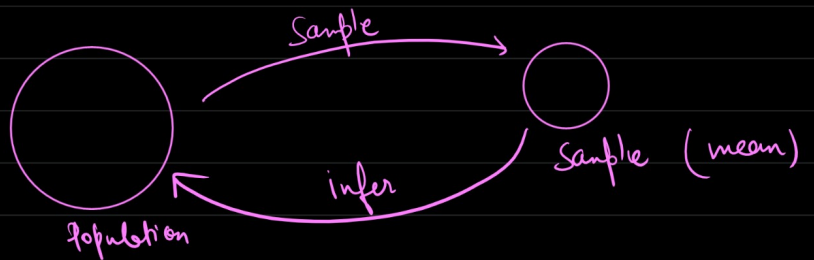
Hypothesis and mechanism



→ Hypothesis testing.

* Hypothesis → It is a claim or a statement or an assumption about a population parameter that can be tested using statistical methods.

eg Avg Salary of IT employee 50K.
eg Consumption of Ice-cream is more in Summer.
eg The person is not guilty if accused of any crime.

① Null hypothesis → The initial or default assumption.

eg Person is not guilty

② Alternate Hypothesis :- opposite of Null hypothesis

eg Person is guilty.

Mechanism

① Frame the hypothesis
- H_0 (Null hypothesis)
- H_A (Alternate hypothesis)

Claim/ hypothesis :- Avg age of people in Pwskills is 45 years.

$H_0 : \mu_{age} = 45$
$H_A : \mu_{age} \neq 45$.

H_0 → will have equality sign.

Hypothesis → Avg age of Employee in ABC organisation is atleast 45 years?

→ H_0 : $H_{age} \geq 45$

→ H_A : $H_{age} < 45$

↳ $H_{age} \geq 45$

↳ $H_{age} < 45$

→ Avg age of Employees in pwskills is greater than 45 years?

$H_{age} > 45$ $H_{age} \leq 45$

H_0 : $H_{age} \leq 45$

H_A : $H_{age} > 45$

→ Avg age is greater than equals 45 years

H_0 : $H_{age} \geq 45$

H_A : $H_{age} < 45$

② Experiment / statistical analysis (pvalue, significance level)

③ reject H_0 or fail to reject H_0