

Assignment.

A car company believes that percentage of residents in a city ABC that owns a vehicle is 60% or less. A sales manager disagrees with this. He conducts a hypothesis testing. Surveying 250 residents and found that 170 responded yes to owning a vehicle.

② State null and alternate hypothesis.

③ At 10% significance value, is there enough to support the idea that vehicle ownership in city ABC is 60% or less?

$$H_0 \longrightarrow \mu \leq 60\%$$

$$H_1 \longrightarrow \mu > 60\%$$

$$n = 250$$

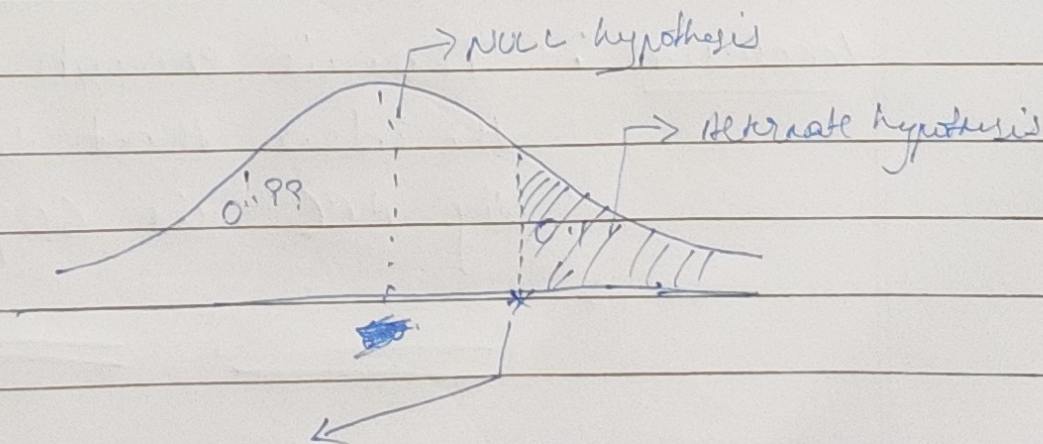
$$P_0 = 60/100 = 0.6$$

$$\hat{p} = 170/250 = 0.68$$

This is a one tail Z-test with proportion.

Significance value, $\alpha = 10\% = 0.1$

Decision Boundary



$$Z_{(1-0.1)} = Z_{(0.99)} = +1.645$$