(a) H_0 : $p_0 \leq 60\%$ (0.60)

H_1 : $p_0 > 0.60$

(b) data

(I) no of samples $(n) = 250$

sample responded yes $(x) = 170$

proportion $(\hat{p}_0) = \frac{x}{n} = \frac{170}{250} = 0.68$

$p_0 = 0.60$

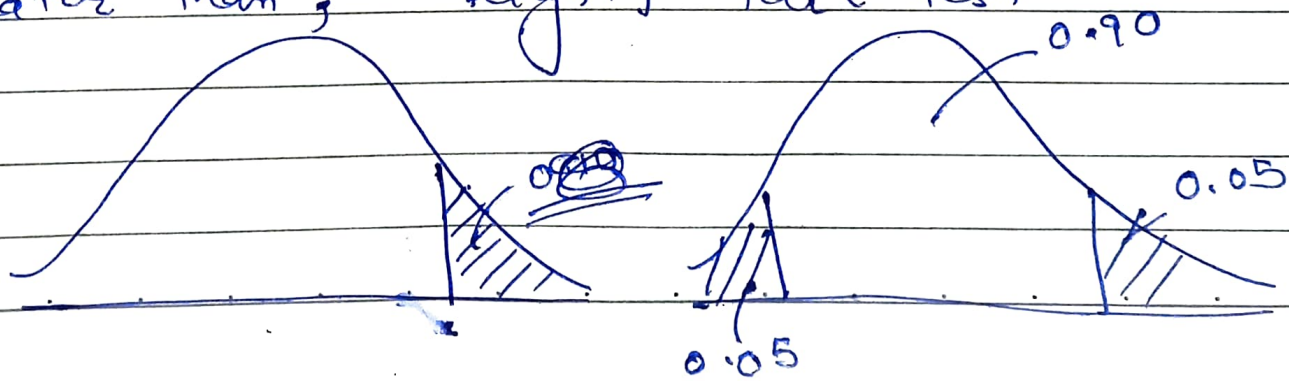
$q_0 = 1 - p_0 = 0.40$

significance level $(\alpha) = 0.10$

$CI = 1 - \alpha = 0.90$

(II) • One tail test

& the since proportion is greater than ; right tail test



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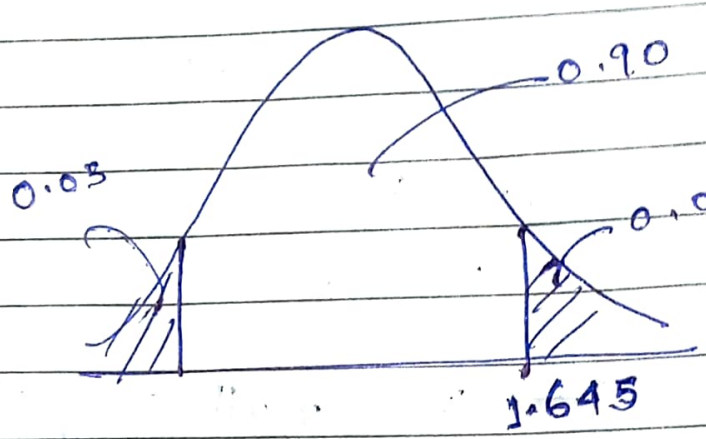

Z value for 0.95 area

the Z value is average of 1.64 & 1.65

= 1.645

(iii) Decision

$$Z_{proportion} = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} = \frac{0.68 - 0.60}{\sqrt{\frac{0.60\,(0.40)}{250}}}$$

= 2.58

2.58 is greater than the 1.645 It falls onto the rejection area.

So, it is safe to reject the null hypothesis at 10% significance level.