

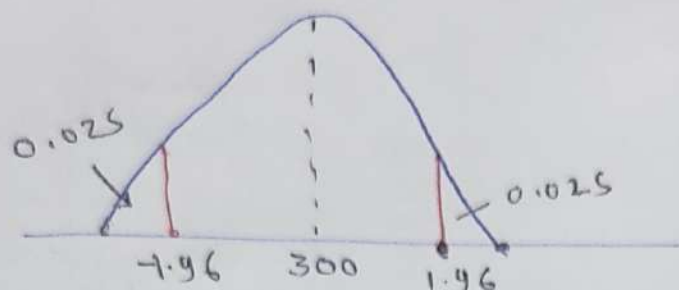
Assignment - T-shirts

100k employs working in company, 500 employee.

Sample data - 300 XL & 200 L

How many XL & L T-shirts needs to order

→ For XL T-shirt, $n=500$, $\bar{x}=300$, $s=50$
by C.I at 95%.



$$\alpha = 1 - C.I = 1 - 95\% = 0.05$$

$$\begin{aligned} &= 1 - 0.025 \\ &= 0.975 = Z\text{-value} \\ &= 1.96 \end{aligned}$$

$$\begin{aligned} &= 300 - Z_{0.05/2} \frac{50}{\sqrt{500}} \\ &= 300 - 1.96 (2.23) \\ &= 295.62 \\ &= \frac{295.62}{500} = 59.12\% \end{aligned}$$

$$\begin{aligned} &= \bar{x} \pm Z_{\alpha/2} \frac{s}{\sqrt{n}} \\ &= 300 + Z_{0.05/2} \frac{50}{\sqrt{500}} \end{aligned}$$

$$\begin{aligned} &= \frac{59.12\% \times 100000}{100} \\ &= 59124 \end{aligned}$$

$$= 300 + 1.96 (2.23)$$

$$= 304.38$$

$$= \frac{304.38}{500} = 60.87\%$$

$$= \frac{60.87 \times 100000}{100}$$

$$= 60876 \text{ For XL}$$

He order 60000 \pm 876
XL-T-shirts