

ASSIGNMENT-8 SUJATA SAHU

PROBLEM 1:

Given $\alpha = 0.05$

$$H_0: T = 2$$

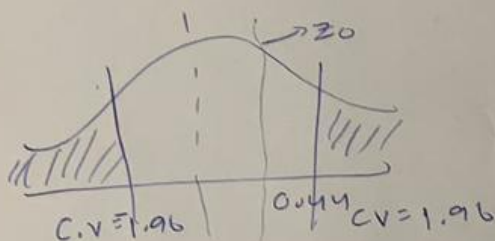
$$H_1: T \neq 2$$

$$n = 20$$

Confidence = 95%
 $\alpha = 0.05$

$$S = 11$$

$$Z_0 = \frac{S - 0.5n}{0.5 \sqrt{n}} = \frac{11 - 0.5 \times (20)}{0.5 \times \sqrt{20}} = 0.44$$



$$P\text{-value} \approx 0.15 \times 2 \\ \approx 0.3$$

$$P\text{-value} > \alpha$$

Therefore we do not reject H_0

PROBLEM 2:

Given $\alpha = 0.01$

$$H_0: D_1 \text{ and } D_2 \text{ are same}$$

$$H_1: D_1 \neq D_2$$

$$T_1 = 19045$$

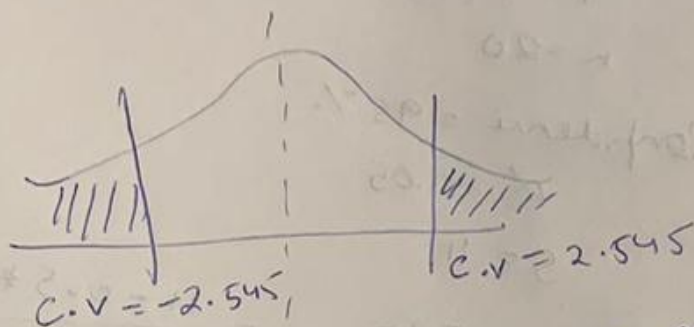
$$Z_0 = \frac{T_1 - \left[\frac{n_1 \times n_2 + n_1(n_1 + 1)}{2} \right]}{\sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}}$$

$$= \frac{19045 - \left[\frac{125 \times 125 + 125 \times 126}{2} \right]}{\sqrt{\frac{125 \times 125 \times 251}{12}}}$$

$$= \frac{19045 - 15687.5}{571.68}$$

$$= 5.87$$

Since $\alpha = 0.01$
 $C.V = 2.545$



Since Z_0 is lying rejection region we reject Null hypothesis H_0