

At  $\alpha = 0.1$  we get  $-1.28$  standard deviation.  
if we compare  $-1.28 < 2.58$  So Null Hypothesis is accepted

Conclusion  $\rightarrow$  60% or less owns a car in city ABC.

P-value  $\approx 0.99506$  greater than  $\alpha = 0.1$ ,  $H_0$  accepted

Question-4  $\rightarrow$  what is the value of the 99% percentile?

2, 2, 3, 4, 5, 5, 5, 6, 7, 8, 8, 8, 8, 8, 9, 9, 10, 11, 11, 12

Answer  $\rightarrow$

Total = 20 ~~num~~ data points.

$$\text{Formula} = \frac{\text{Percentile}}{100} \times (n+1)$$

$$= \frac{99}{100} \times 20$$

$$= 0.99 \times 20$$

$$= 19.8^{\text{th}}$$

average of 19<sup>th</sup> and 20<sup>th</sup> Rank

$$= \frac{11+12}{2}$$

$$= 11.5$$