Question2: std. dev= 100

n = 25

sample mean= 520

confidence interval= 80%

α= 1- 0.80 = 0.20

lower fence = point estimate – margin of error

higher fence= point estimate + margin of error

where, point estimate is the sample mean and,

margin of error =  **= 1.28 \* 100/**

= 1.28 \* 100/5 = 25.6

Lower fence = 520- 25.6 = 494.4

Upper fence = 520 + 25.6 = 545.6

Question3:

a)null hypothesis :

0.6

Alternate hypothesis : p 0.6

b)

Significance value is 10% , which means that the confidence interval is 90%:

C.I. = 1- 0.10 = 0.90 ( 90%)

n = 250

number of residents owning a vehicle = 170

hence, the percentage of people owing a vehicle in the survey = 170/250 \* 100 = 68% ( p= 0.68)

population percentage is than or equal to 60 ( 0.60)

Z = P (sample) – P (population)/ sq. root of P population( 1- P population)/n

Using the Z table for a significance of 0.1 ( 10 percent)- 0.1 /2 = 0.05

This is a one tail test : ( 1-0.05= 0.95) ; the area under the curve using the Z table is + 1.64

the decision rule : range for the null hypothesis to be true, Z + 1.64

Z value for the proportion using the above formula = 0.08/0.031 = 2.58

Hence, the null hypothesis is rejected here. We don’t have enough evidence to support the idea that vehicle owners in the city is 60 percentage or less.

Question4;

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

N= 20

Value for 99 percentile= ?

Q ( index value) = percentile/100 \* (N+1)

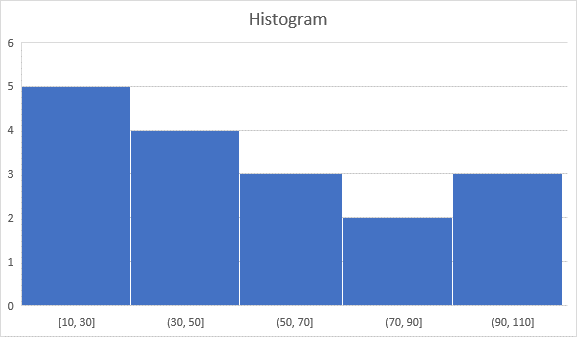
= 99/100 \* (20+1) = 20.79 index

Which points to : **12**

**Question 1 : Plot the histogram**

10, 13, 18, 22, 27, 32, 38, 40, 45, 51, 56, 57, 88, 90, 92, 94, 99

**With bin: 5 and bin size =20**



Question 5:

