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

	Statistics Assignments					
que 1)	Statistics Hosignan foli: Plot a histogeram foli: \$10,13,18,22,27,32,38,40,45,51,56, \$10,13,18,22,27,32,38,40,45,51,56, \$57,88,90,92,94,993					
100	57, 88, 90, 92, c)					
607.00	Greating class intervals and its eretated					
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	= -2.369 H6-2.3692-1.96, WE					
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Que 2) In a quant test of the CAT Exam, the population standard deviation is known to be 100. A sample of 25 tests taken has a mean of 520. Construct an 80% CI about the mean.

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3	Assignment Day 5:
8)	In the quant lest of CAT exam, the populate standard deviate is 100. A sample of 25 candidates has a mean of 520. Construct a 80% confidence interval about the mean.
~ >	candidates has a mean of 520. Construct a
~~	80% confidence interval about the mean.
soln	$\sigma = 100$ $n = 25$ $\bar{\chi} = 520$ $c1 = 80\%$
	13 13 15 15
<u></u>	CI = Point estimate + margin of everor
×	$\bar{x} + Zx_1 = 0$
\ <u></u>	$\frac{\chi}{2} + \frac{7\chi}{2} = \frac{5}{\sqrt{n}}$
<u></u>	1-1-0-0
	2 2 20.70
<u> </u>	21.29
	100000 for 10 = 0 = 74, 0 = 500 = 100 1 100
	lower fence = \$\overline{\pi} - \overline{\pi_{12}} \sqrt{0} = 520 - 1.29 \times \frac{100}{5}
	= 520-1.29× 20 = 494.2
	Higher fence = x + 7x, 6 = 520+1.29 × 100
	Higher fence = $x + 7x/2 = 520 + 1.29 \times 100$
	= 545.8
\rightarrow	80°/0 confidence interval
. /	90% confidence interval ganges between 494.2 and 545.8
. 00	494.2 520 545.8
	CI

Que 3) A car manager believes that the percentage of citizens in city ABC that owns a vehicle is 60% or less. A sales manager disagrees with this. He conducted a hypothesis testing surveying 250 residents & found that 170 residents responded yes to owning a vehicle.

- a) State the null & alternate hypothesis.
- b) At a 10% significance level, is there enough evidence to support the idea that vehicle owner in ABC city is 60% or less.

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Sol"	Null Hypothesis: Ho: U \(\leq 60\) Alternate Hypo: H,: U \(\frac{1}{2} \) 60
	n=250 x=170 Po=0.6 (60%)
St 3	$\hat{p} = \alpha = 170 = 0.68$ $h = 250$ $\text{Reject} \qquad \text{Ho}$
	90 = 1-P0 = 1-0.6 = 0.4 mill 11-128 +2.5
	$\chi = 0.1$ (5] = 10%) $Z_{12} = \frac{1.98}{1.57}$ $Z_{0.05} = -2.57$
	2-test with peropolition: P-Po TP090 n
	$\frac{-0.68-0.6}{\sqrt{\frac{0.6\times0.4}{250}}} \approx 2.58$
	As 2.58 > 2.57, we reject the Null Hypo.
	The vehicle onevers are more than 60%

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

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que)	What is the value of 99 percentile?
	{2,2,3,4,5,5,5,6,7,8,8,8,8,9,9,10,11,11, 12}
	Value = <u>Pencentile</u> × (n+1)
	$\frac{99}{100} \times (20+1)$
	= 20.79 (Index value)
	as & n = 20, and the index value is 20.79, the answer would be 12
	12,2333,44,4,25,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5
13	Mean = 3. Median = 4
	3 = aham

Que 5) In left & right-skewed data, what is the relationship between mean, median & mode? Draw the graph to represent the same.

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0.00	Que Palt a winter expensed data webat is the				
que s	In left & eight-skewed data, what is the selationship leetween mean, median & mode?				
112.11	mode?				
129					
solu	x= {1,2,2,2,2,2,3,3,3,3,4,4,4,5,5,6}				
	Deathing the reall.				
	Plotting the graph:				
	Mean = 3.18				
	Median = 3				
	Mode = 2				
	= 20-79 Much value				
	20 6 n = 20 and the moder were				
	1579 the answer world be :2				
	2				
	y= { 6, 5, 5, 4, 4, 4, 3, 3, 3, 3, 2, 2, 2, 2, 2, 4, 4, 4, 4, 5, 5, 5, 5, 5, 6 }				
	Plotting the gliaph:				
	Mean = 3.81				
	Median = 4				
	mode = 5				
	In eight skewed data: the mode is less than mean				
	than the median which is kes than mean				
	In left-skewed data: the mode mean is less than the median which is less than mode.				
	ander the median which is this men more.				