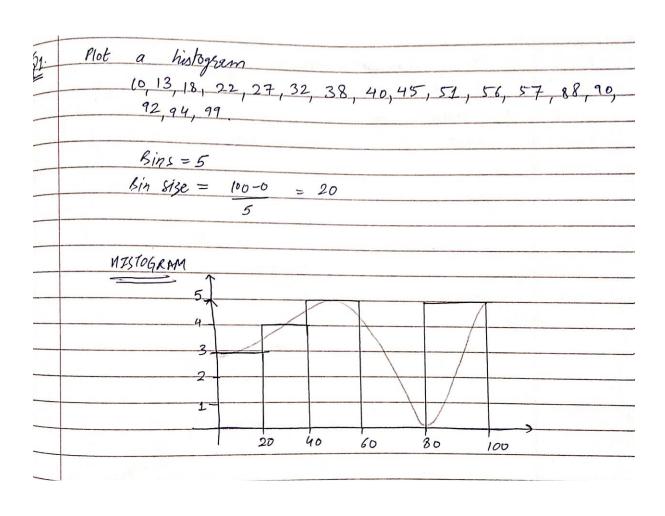
ASSIGNMENT-1

Que 1) Plot a histogram,

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



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.

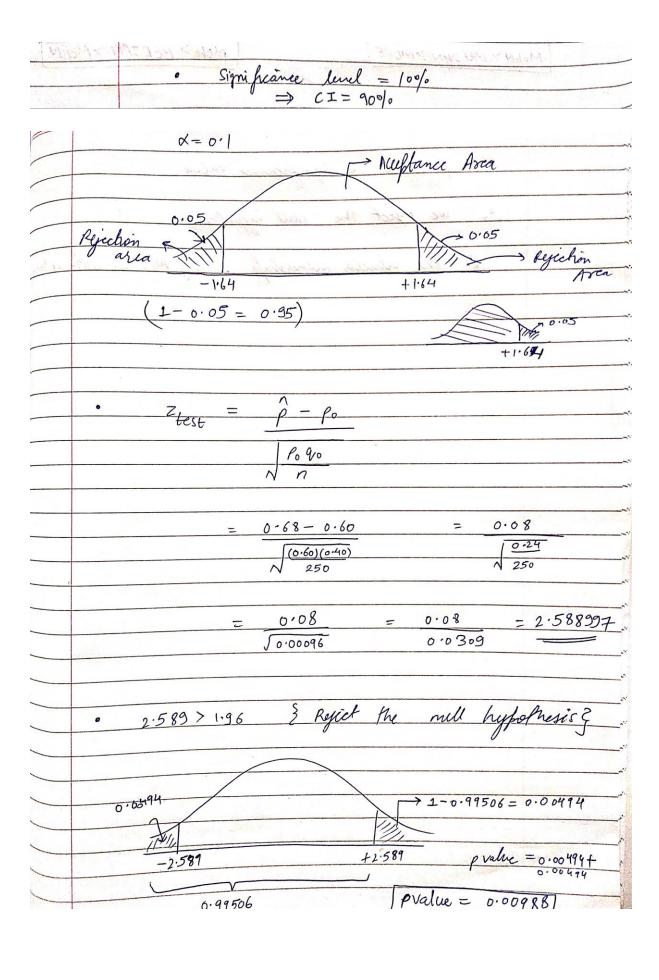
Sample of 25 tate has a mean of 520. Construct an 80% CI about the mean. W $T = 100$ $0 = 25$ $\overline{x} = 520$ $0 = 1$ $0 = 25$ $0 $		DATE: / /
Standard deviation is known to be 100. At sample of 25 tate has a mean of 520. Construct an 80% CI about the mean. We have a solution of the standard of th		
Sample of 25 tate has a mean of 520. Construct an 80% CI about the mean. W $T = 100$ $0 = 25$ $\overline{x} = 520$ $CI = 80\%$. CI = point estimate \pm margin of ester $CI - \overline{x} \pm \overline{\lambda}_{d/2} = \overline{y}_{0}$ where λ is significance value $\lambda = 1 - CI$ $ \overline{x} = 0.2 $ $\lambda = 1 - CI$ $ \overline{x} = 0.2 $ $\lambda = 1 - CI$ $ \overline{x} = 0.9$ Area Now, in $\lambda = 1$ Now, in $\lambda = 1$	Q2:	In a quant test of the CAT warn, the population Standard deviation is known to be 100. 4
Construct an 80% CI about the mean. $ \begin{array}{cccccccccccccccccccccccccccccccccc$		sample of 25 tests has a mean of 520.
$T = 100$ $0 = 25$ $\overline{\chi} = 520$ $CI = 90\%$ $CI = 90\%$ $CI = \frac{1}{2}$ $CI = \frac{1}{$		construct an 80% CI about the mean.
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	601	the state of the s
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1	T=100
CI = 80%. CI = 80%. CI = point estimate \pm margin of ester CI = $\overline{X} \pm \frac{1}{2} \pm \frac{1}{2} = \frac{1}{2} =$	17.5	n=25
$CI = point estimate \pm margin of estar$ $CI - \overline{X} \pm \overline{\lambda}_{4/2} \frac{\sigma}{\sqrt{n}}$ $where \(\lambda \) is eignificance value $		$\overline{\chi} = 520$ 6.1
CI = point estimate \pm margin of user CI = $\overline{X} \pm \overline{\lambda}_{d/2} = \overline{\sum}_{\overline{N}}$ where λ is right-since value $\lambda = 1 - CI$ $ \overline{\lambda} = 0.2 $ $\frac{1 - 0.1}{\sqrt{2}} = \overline{\lambda}_{d/2}$ $\frac{1 - 0.1}{\sqrt{2}} = 0.9 (Area)$ Area Now, in 2 -table,		CI = 80%
CI = point estimate \pm margin of ester CI = $\overline{X} \pm \lambda_{d/2} \frac{\sigma}{5n}$ where λ is right-since value $\lambda = 1 - CI$ $ \alpha = 0.2 $ $\lambda_{d/2} = \frac{Z_{0.2}}{2} = Z_{0.4}$		
CI = point estimate \pm margin of ester CI = $\overline{X} \pm \overline{\lambda}_{d/2} = \overline{\lambda}_{d/2}$ where λ is right-since value $\lambda = 1 - CI$ $ \lambda = 0.2 $ $ \lambda = \overline{\lambda}_{d/2} = \overline{\lambda}_{d/2}$ Now, in λ -table,		- 428 +428
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		CI = point estimate + margin of estor
where d is eignificance value $d = 1 - CI$ $d = 0.2$ $\frac{Z_{1/2}}{Z_{1/2}} = \frac{Z_{0.2}}{Z_{1/2}} = \frac{Z_{0.1}}{Z_{0.1}}$ $\frac{1 - 0.1 = 0.9}{Area} \qquad (Area)$ $\frac{70 tal}{Area}$ $\frac{1}{Area}$ $\frac{1}{Area}$ $\frac{1}{Area}$		$CI = \overline{\chi} \pm Z_{\lambda} \underline{\sigma}$
$Z = 1 - CL$ $ Z = 0.2 $ $Z_{1/2} = Z_{0.2} = Z_{0.1}$ $1 - 0.1 = 0.9 (Area)$ $Area$ $Area$ $Now, in Z-table,$		12 Jn
$Z = 1 - CL$ $ Z = 0.2 $ $Z_{0.2} = Z_{0.2}$ $1 - 0.1 = 0.9 (Area)$ $Area$ $Area$ $Now, in Z-table,$		
$Z = 1 - CL$ $ Z = 0.2 $ $Z_{0.2} = Z_{0.2}$ $1 - 0.1 = 0.9 (Area)$ $Area$ $Area$ $Now, in Z-table,$		where & is significance value
$Z_{N/2} = Z_{0.2} = Z_{0.1}$ $1 - 0.1 = 0.9 (Area)$	10	$\lambda = 1 - CL$
1-0.1 = 0.9 (Area) 70 tal e Area Now, in Z-table,		$ \alpha = 0.2$
1-0.1 = 0.9 (Area) 70 tal e Area Now, in Z-table,		
1-0.1 = 0.9 (Area) 70 tal e Area Now, in Z-table,		$Z_1 = Z_{02} = Z_{01}$
Now, in Z-table,	79	2 2
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The state of the s		
lower fence = $\bar{x} - 2H_2$		lower fence = $\pi = 24/2$
Jn Julia		Jn J
-1.28 526 +1.28		-1·28 520 +1·28

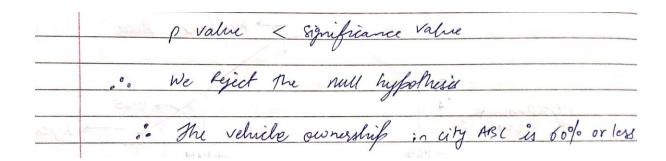
الرائودي	Lower fence = \(\pi - \tau_1 \)
	lower fence = $\frac{1}{2} - \frac{1}{2} = $
. 5	the water to the state of the s
	= 520 - (1.28) x 100
	J25
	00' = 1
	$= 500 - 1.28 \times 100 = 500 - 1.28 \times 20$
t	5
	= 474.4
	Att (
d	+12
	Higher fence = $\overline{x} + Z_{a_{1}} \frac{\sigma}{\sqrt{\eta}}$
	rolled by minimum = The Total of Total
	$= 520 + (1.28) \times 100$
	J25
	and a superior of the superior
	$= 520 + 1.28 \times 20 = 520 + 25.6$
	= 545.6
	Accept the null
	hypothesis
	(series) to a live of
	Riject pre nucl hypothus
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	474.4 545.6 hypothess

Que 3) A car 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.

	Company Oconice
93.	4 car believes that the preentage of litizens
The second second	in city ABC that owns a vehicle 2 60% or
- 1 1 1 1 m	les . A sales manager disagrees with this, he
	conducted a histothesis teeting surveying 250
1000	residents and bound that 170 residents
	residents and found that 170 residents responded yes to owning a vehicle:
	(a) State the null of atternate hypothesis
	(6) At a 10% synificant level, is these enough
	listence to support the idea that vehicle
	owner in ABC city is 60% or less.
	Z-test with proportion
	(a) = NULL HYPOTHESIS
	No : owns a vehicle (Po > 60%)
Section of the sectio	6 18 18 18 18 18 18 18 18 18 18 18 18 18
NO. 12 10	ALTERNATE MYPOTHESIS
-9-5-7 1 W	4: own a vehicle (p. \$ 60%)
	(6) • $n = 250$
1	(b) • $n = 250$ $n = 170$
1 35	$\hat{\rho} = \chi = 170 = 0.60$
by the same	$\rho = \alpha = 170 = 0.68$
Control of the Contro	The second secon
	90=1-Po
	= 1-0.6 = 0.4





Que 4) What is the value of the 99 percentile? 2,2,3,4,5,5,5,6,7,8,8,8,8,9,9,10,11,11,12

	commence belongs
Gy	What is the value of 99 percentile?
10	
53	2,2,3,4,5,5,5,6,7,8,8,8,8,8,9,9,10,11,11,15
7	
	Value = perentile χ (n+1) $\geq n = 20$
	100
	= 99 x 21
	100
	$= (20.79)^{th} index$
	value = 20th index
	Value = 12

Que 5) In left & right-skewed data, what is the relationship between mean, median & mode?

Draw the graph to represent the same.

5	In left & right - skewed data between mean, mode & med	, what is the relationship
	between mean mode & med	ian I Praw he graphs to
	represent the same.	median
	mode 7 mean	moin - mode
		5
	Right	(Negative Skew)
	Skewed	(Negative Skews) Left Skewed
	(positive Skew)	0
		41 = 5.30
	H-n =: 9	0 = 4
	MEAN > MEDIAN > MODE	MODE > MED ZAN > MEAN
	altal = kmil	Strain France
