Assignment 1

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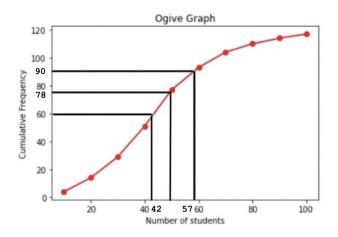
Q10 - a): Use graph paper for this question. The marks obtained by 120 students in an English test are given below:

Marks	0-	10-	20-	30-	40-	50-	60-	70-	80-	90-
	10	20	30	40	50	60	70	80	90	100
No.	5	9	16	22	26	18	11	6	4	3
of										
stu-										
dents										

Draw the ogive and hence, estimate:

- (i) the median marks.
- (ii) the number of students who did not pass the test if the pass percentage was 50
- (iii) the upper quartile marks.

Solution:



C.I	Marks	No.	C.F.	
	less	of		
	than	stu-		
		dents		
0 - 10	10	5	5	
10-20	20	9	14	
20-30	30	16	30	
30-40	40	22	52	
40-50	50	26	78	
50-60	60	18	96	
60-70	70	11	107	
70-80	80	6	113	
80-90	90	4	117	
90-	100	3	120	
100				

No. of students = 120

Median = 60th term through cumulative marks, draw a line parellel to x-axis and then draw perpendicular line to x-axis from where it touches curve.

As per the graph:

- i) Median = 42
 - ii) Passing marks = 50

Draw a line parellel to y-axis and perpendicular line to y-axis from where it touches curve.

No. of students who did not pass = 78

iii) Upper quartile marks:
$$\frac{3}{4}$$
 X $n^{th}term$ = $\frac{3}{4}X120 = 90^{th}$ term Draw a line parellel to x-axis and perpendicular line

to x-axis from where it touches curve.

Upper quartile marks: 57