

Assignment 1

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Q9 (a) : The data on the number of patients attending a hospital in a month are given below. Find the average (mean) number of patients attending the hospital in a month by using the shortcut method. Take the assumed mean as 45. Give your answer correct to 2 decimal places.

Number of patients	10–20	20–30	30–40	40–50	50–60	60–70
Number of Days	5	2	7	9	2	5

Solution :

No. of patients	No. of days(f_i)	Class mark	$d_i = x_i - a$	$f_i d_i$
10-20	5	15	-30	-150
20-30	2	25	-20	-40
30-40	7	35	-10	-70
40-50	9	a=45	0	0
50-60	2	55	10	20
60-70	5	65	20	100

$$\sum f_i = 30$$

$$\sum f_i d_i = -140$$

$$\vec{Mean}(X) = a + \frac{f_i d_i}{f_i}$$

$$\vec{Mean}(X) = 45 + \frac{(-140)}{30} = 45 - 4.67 = 40.33$$