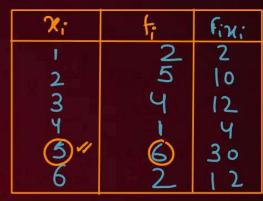


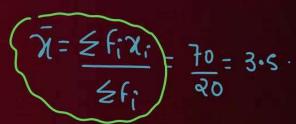
### Mean, Mode and Median

Find mean, mode and median of the given data 5, 3, 5, 2, 1, 3, 5, 6, 5, 4, 2, 3, 2, 6, 1, 3, 5, 2, 5, 2

H mean 
$$(\bar{x}) = \frac{\text{Sum of all the observation}}{\text{total no of observation}}$$
 $= \frac{76}{20}$ 
 $= 3.5$ 

## Frequency distribution table









### Mean, Mode and Median

Find mean, mode and median of the given data 5, 3, 5, 2, 1, 3, 5, 6, 5, 4, 2, 3, 2, 6, 1, 3, 5, 2, 5, 2

Mindian = 
$$\left(\frac{20}{2}\right)^{\frac{1}{11}} + \left(\frac{20}{2}\right)^{\frac{1}{11}} + \left(\frac{20}{2}\right)^{\frac{1}{11}}$$

$$= \frac{10^{\frac{1}{11}} + 11^{\frac{1}{11}}}{2} \Rightarrow \frac{3+3}{2} = \frac{6}{2} = \boxed{3}$$

# Frequency distribution table



χį	f	Fix:
1	25	2
3	4	12
4		4
6	2	30



# U=099	H n= even
midian = (n+1)	midian = (n) th (n +1) th
	2





Gass size = upper limit - lower limit



2,3,18,20,25,35,42,19,28,20,35,49,48,42,8,13,17,29,39,42,47,36,35,16

# Direct
method

	Interval	fi	χ;	fix:
lower -	0-10	3	5	15
upper	10-20	11	15	165
limit	20-30	10	25	250
	30-40	6	35	210
	40-50	7	45	325

#### QUESTION





A survey was conducted by a group of students as a part of their environment awareness programme, in which they collected the following data regarding the number of plants in 20 houses in a locality. Find the mean number of plants per house.

No. of plants	f;	Xi	f <sub>i</sub> x <sub>i</sub>
0 – 2	1	T.	1
2 – 4	2	3	6
4 - 6	1	5	3 5
6 - 8	5	7	3 5
8 - 10	6	9	54
10 - 12	2	0-	72
12 - 14	3	13	3 9
	20		182



### H Assume mean method



The table below shows the daily expenditure on food of 25 households in a locality Find the mean daily expenditure on food by a suitable method. -650 + 300 = -350

Daily expenditure	f	<b>%</b> ;	di=xi-A	Fidi
100 – 150	4	125	- 100	-400-
150 – 200	5	175	- 50	- 250
200 – 250	12	(225)	0	0
250 – 300	2	215	50	1007
300 – 350	2	375	100	200
	20			-300







h = yasssize 520-500=20



Consider the following distribution of daily wages of 50 workers of a factory.

Find the mean daily wages of the workers of the factory by using an appropriate method.

Daily wages	f	N:	di=7;-A	$U_i = \frac{di}{h}$	fivi
500 – 520	12	510	-40	- 2	-24-
520 - 540	14	530	- 20	-1	-141
540 – 560	8	(550)	0	0	0
560 - 580	6	570	20		6
580 – 600	10	590	40	2	20

-12

$$550 + \left(\frac{-12}{50}\right) \times 20$$
 $550 - 24$ 
 $550 - 4.8$ 





The following table shows the ages of the patients admitted in a hospital during a year:

Find the mode of the data

Age (in year)	Number of patients	
5 - 15	6	h=10
15 – 25	11	1=35
25 - 35 cm	dal class 21 -	Fo
1 ← 35 - 45	23 →	F.
45 – 55	14 →	f <sub>2</sub>
55 – 60	14	
60 – 65	5	

Mode = 
$$1 + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right) \times h$$
  
=  $35 + \left(\frac{23 - 21}{46 - 21 - 14}\right) \times 10$   
=  $35 + \left(\frac{2}{25 - 14}\right) \times 10$   
=  $35 + \left(\frac{2}{25 - 14}\right) \times 10$   
=  $35 + \left(\frac{2}{36 \cdot 8}\right) \times 10$   
=  $36 \cdot 8 \times 10$ 





$$2fi = \frac{1}{2} = \frac{68}{2} = 34$$

$$\frac{1}{2} = \frac{68}{2} = 34$$



The following frequency distribution gives the monthly consumption of electricity of 68

consumers of a locality. Find the median of the given data.

Monthly c	onsumption (in unit)	Numbe	er of cor	nsumers	C•f
h=20	65 – 85 🗸		4		Ч
	85 <b>-</b> 105 🗸		5		9
	105 - 125 🗸		13	<u> </u>	22(15
1=125	125 - 145	F=	20		42/
	145 - 165		14		56
	165 - 185	<u> </u>	8		64
	185 – 205	in in	4	<b>↓</b>	68

M= 
$$1+\left(\frac{11}{2}-cF\right) \times h$$
 $\Rightarrow 125+\left(\frac{34-22}{26}\right) \times 26$ 
 $\Rightarrow 125+12$ 
 $\Rightarrow 137 \sim$ 





The following table shows the cumulative frequency distribution of marks of 800 students in an examination. Construct a frequency distribution table for the given data.

Marks	Number of Students	Interval	f
Below 10	3	0-10	3
Below 20	12	10-20	q
Below 30	27	20-30	15
Below 40	57	30-40	30
Below 50	75	40.50	18
Below 60	80	50-60	5



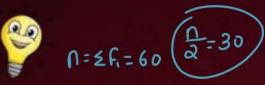




## Form the frequency distribution table from the following data:

Marks obtained	Number of students	Interval	Frequency
More than or equal to 0	63	0-10	5
More than or equal to 10	58	10-20	3
More than or equal to 20	55	20-30	4
More than or equal to 30	51	30-40	3
More than or equal to 40	48 🗸	40- SO	6
More than or equal to 50	42	50-	42







## If the median of the distribution given below is (28.5), find the values of x and y.

Class interval	F	CF
0 – 10	5	5
10 – 20	х	715=(f
J= 20 - 30	20= F	X+25
30 - 40	15	N+40
40 – 50	у	X+y+40
50 - 60	5	X+Y+4S
Total	60	

Midian: 
$$1+\left(\frac{\Omega}{2}-cf\right) \times h$$
 $28.5 = 20 + \left[30-(\chi+5)\right] \times 10$ 
 $28.5 = 20 + \left[30-(\chi+5)\right] \times 10$ 
 $28.5 = 20 + \left[30-(\chi+5)\right] \times 10$ 
 $38.5 = 20 + \left[30-(\chi+5)\right] \times 10$ 



# Mean, Mode and Median



Emperical Rulation Ship

3 Midian = 2 Mian + Mode /