③ Measures of Central
Tendancy :-

→ In this we will focus on how we can do things mathematically to better understand our data.

① Mean
② Median
③ Mode.

① **Mean** :- It is also known as average.

$$\Rightarrow \left[\text{Mean} = \frac{\text{Sum of all numbers}}{\text{Total numbers}} \right]$$

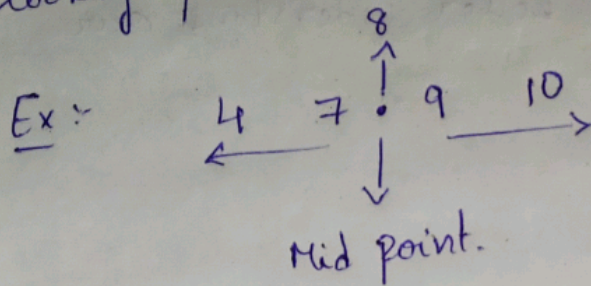for example :- 1 2 3 4 5

$$\Rightarrow \frac{1+2+3+4+5}{5} = \frac{\overset{3}{\cancel{15}}}{\cancel{5}_1} = 3$$

$$\Rightarrow 2, 2, 7, 9, 10$$

$$\Rightarrow \frac{2+2+7+9+10}{5} = \frac{\overset{6}{\cancel{30}}}{\cancel{5}_1} = 6$$

⟹ fancy representation in Statistics is

$$\left[\bar{x} = \frac{1}{N} \sum_{i=1}^{N} x_i \right]$$

② **Median** :- Median is also used for to find the middle point of our data, but here we are just looking for the middle part.

Ex :-

$$\overset{8}{\underset{\downarrow}{\overset{\uparrow}{\underset{\longleftarrow 4 \quad 7 \quad 9 \quad 10 \longrightarrow}{}}}}$$

Mid point.

→ **Even** :- In even numbers of data points we have to find the average of middle 2 numbers.

→ **odd** :- For odd data points we can directly find the mid point.

③ **Mode** :- Mode is a simple which ever number occurred most in our data is the mode.

For ex :- 2, 2, 6, 6, 8, 8, 9, 0, 10, 10, 10, 10

⇒ $\boxed{10}$

Ex 2 :- 1, 2, 3, 4, 5, 6.

→ we can say this data has no mode cause all the values are distinct.

Ex 3 :- 1, 2, 1, 1, 2, 2, 7, 8, 9

→ here we can say this is a case of bimodal as we have 2 modes 1 & 2.

→ or we can say whenever we have modes more than one it is a case of bimodal.