17/11/2025

## Simple Linear Regression:-

(RAM ROM Camera Processor Colour) → x – features / x – input → Independent on each other

(Price) → y – target / y – output → Dependent on x

### SLR Assumptions:-

1) Target should be continuous.
2) Data contain only one feature & one target.
3) The x and y should be collinear / Corelated.

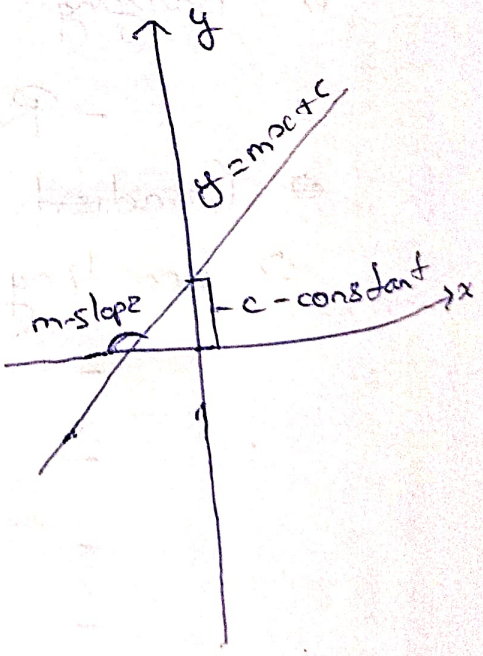
### Math Behind SLR:-

Linear Line equation

$$y = mx + c$$

m – slope

c – constant



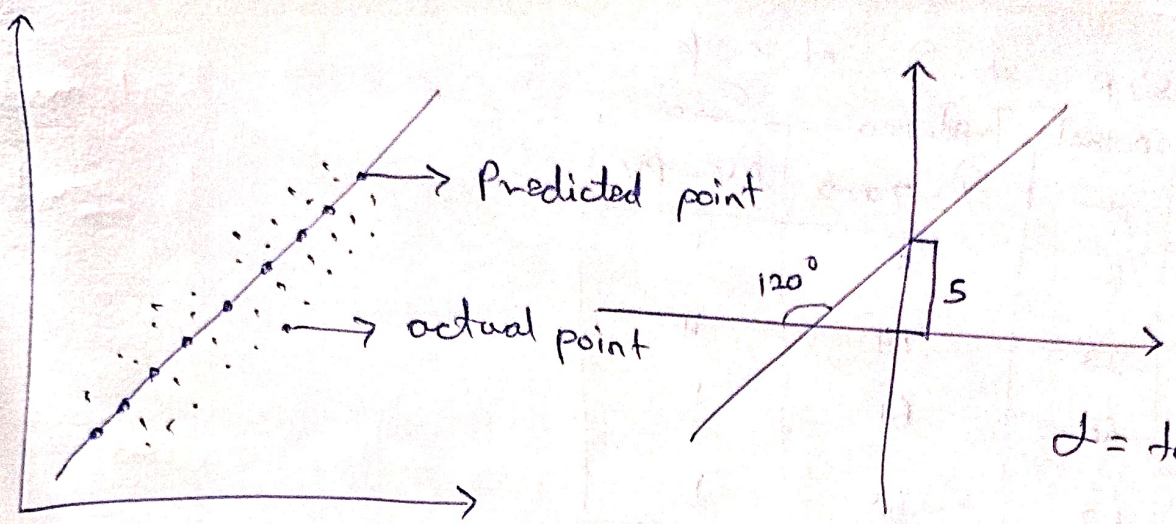

$m - \alpha$ , $c - \beta$, $y - \hat{y}$

$$\hat{y} = \alpha x + \beta$$

$\alpha$ – co-efficient

$\beta$ – Intercept

$x$ – data point




$\hat{y} = \tan 20° \times 5$

$= -\sqrt{3}x + 5$

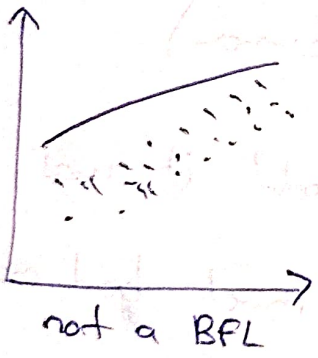
$\hat{y} = -1.732x + 5$

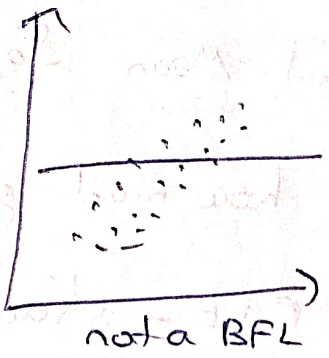
$x = 3$

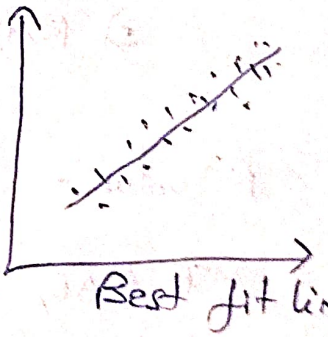
$\hat{y} = -0.319$

If it is 68%.
(If we want to increase accuracy we ↑ $\alpha$ ↓ $\beta$.)

## Best fit line


not a BFL


not a BFL


Best fit line

The average distance between actual point and predicted line it should be less.