Linear Regression

X (Independent)	Y (Dependent)	X - X_Bar	Y - Y_Bar	(X-X_Bar)^2	(X - X_Bar) * (Y - Y_Bar)	Yp	(Yp - Y_Bar)	(Yp - Y_Bar) ^ 2	(Y - Y_Bar)^2
1	3	-2	-0.6	4	1.2	2.8	-0.8	0.64	0.36
2	4	-1	0.4	1	-0.4	3.2	-0.4	0.16	0.16
3	2	0	-1.6	0	0	3.6	0	0	2.56
4	4	1	0.4	1	0.4	4.0	0.4	0.16	0.16
5	5	2	1.4	4	2.8	4.4	0.8	0.64	1.96
X_Bar 3	**Y_Bar. 3.6**			**Sum = 10**	**Sum = 4.0**			**Sum = 1.6**	**Sum = 5.2**

Equation of line : Y = mX + C

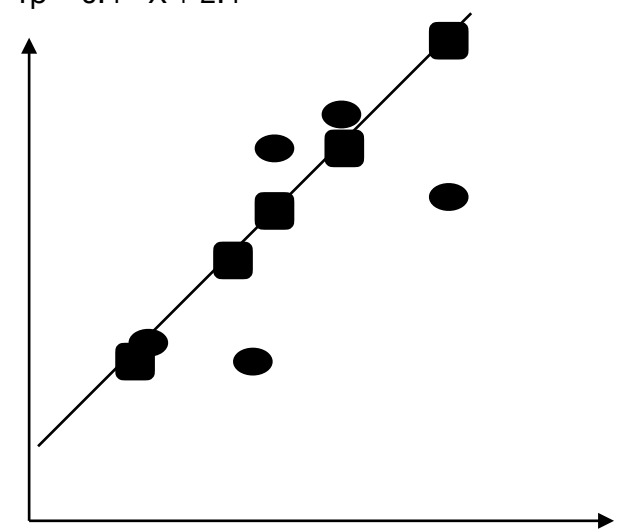
Y Dependent Variable
X Independent Variable
m Slope of line
c Y intercept of line

$$m = \frac{\Sigma (X - X\_Bar)(Y - Y\_Bar)}{\Sigma (X - X\_Bar)^2}$$

m = 4/10
m = 0.4

Y = mX + C
3.6 = 0.4 * 3 + C
3.6 = 1.2 + C
C = 3.6 - 1.2
C = 2.4

Yp = 0.4 * X + 2.4



R Square method

Distance (predicted - mean)
VS
Distance (actual - mean)

R_Square formula

$$\frac{\Sigma (Yp - Y\_Bar)^2}{\Sigma (Y - Y\_Bar)^2}$$

R^2 = 1.6 / 5.2
R^2 = 0.3