

Q.1. Example Num 10.1:-

	$Y$	$XY$	$X^2$	$Y^2$
1	2	2	1	4
2	5	10	4	25
3	3	9	9	9
4	8	32	16	64
5	7	35	25	49
<u>15</u>	<u>25</u>	<u>88</u>	<u>55</u>	<u>151</u>

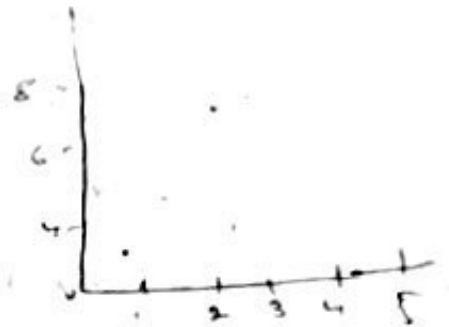
$$r = \frac{n \sum XY - \sum X \sum Y}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

$$= \frac{5(88) - (15)(25)}{\sqrt{[5(55) - (15)^2][5(151) - (25)^2]}}$$

$$= \frac{65}{80.6225}$$

$$r = 0.80$$

So, it is a strong +ve linear relationship.



Q.2. Difference b/w Correlation & Regression.

In correlation both variables are random variables, i.e. there is no distinction b/w dependent variables & independent variables.

But in regression, we are interested in determining the dependence of one variable on other variable.