* Problem On correlation coefficient *.

Prob :- Find the value of the correlation coefficient from the following table.

Subject	Age X	Glucose level Y
1	43	99
2	21	65
3	25	79
4	42	75
5	57	87
6	59	81

Solution :- Step 1: Make a chart. Use a given data and add three more columns as XY, x^2, y^2.

Subject	Age X	Glucose level Y	XY	x^2	y^2
1	43	99	4257	1849	9801
2	21	65	1365	441	4225
3	25	79	1975	625	6241
4	42	75	3150	1764	5625
5	57	87	4959	3249	7569
6	59	81	4779	3481	6561
Σ	247	486	20485	11409	40022

Putting all values in formula.

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2]\,[n\Sigma y^2 - (\Sigma y)^2]}}$$

put all the values in the formula.

$$r = \frac{2868}{5413.27}$$

$$\boxed{r = 0.5298}$$

Hence the correlation coficient is = 0.5298