Regression by Hand

Case	Inc. (y_i)	Edu.n (x_i)	Deviations $(y_i - \bar{y})$	Deviations $(x_i - \bar{x})$	Covariation $(x_i - \bar{x})(y_i - \bar{y})$	Variance $(x_i - \bar{x})^2$
1	2	10	-4	-4	16	16
2	4	12	-2	-2	4	4
3	6	15	0	1	0	1
4	8	16	2	2	4	4
5	10	17	4	3	12	9
$\sum$	30	70	0	0	36	34
Mean	6	14				

$$b = \frac{\text{covariation}}{\text{variance}} = \frac{\sum(x_i - \bar{x})\sum(y_i - \bar{y})}{\sum(x_i - \bar{x})^2} = 36/34 = 1.06$$

$$a = \bar{y} - b\bar{x} = 6 - 1.06(14) = -8.84$$