



There appears to be positive upward relationship between wage and education. In fact there is statistically significant correlation between wage and education. In other words, as number of years in education increases wage also increases.

$$1A \quad \sum_{i=1}^3 x_i = 1 \cdot 1 + 1 \cdot 2 + 1 \cdot 3 \\ = 6$$

$$1B \quad \sum_{i=1}^3 x_i^2 = (3^2 \cdot 1) + (3^2 \cdot 2) + (3^2 \cdot 3) \\ = 9 + 18 + 27 \\ = 54$$

$$1C \quad \left(\sum_{i=1}^3 x_i \right)^2 = \left(\frac{1(1)}{1} \right)^2 + \left(\frac{1(2)}{1} \right)^2 + \left(\frac{1(3)}{1} \right)^2 \\ x_1=1 \quad = 1 + 4 + 9 \\ = 14$$

$$1D \quad \sum_{i=1}^3 a = 2(1) + 2(2) + 2(3) = \\ = 2 + 4 + 6 = 14$$

$$1E \quad \sum_{i=1}^3 ax_i = 2(5)(1) + 2(5)(2) + 2(5)(3) + 2(5)(4) + 2(5)(5) \\ = 10 + 20 + 30 + 40 + 50 \\ a=2 \quad x_3=5 \quad = 66$$

$$1F \quad \sum_{i=1}^3 (a + x_i) = 2 + 3(1) + 2 + 3(2) + 2 + 3(3) \\ = 2 + 3 + 2 + 6 + 2 + 9 \\ = 24$$

$$x_2=3$$

$$a=2$$

