

MATH 308 Assignment 19: Exercises 9.7

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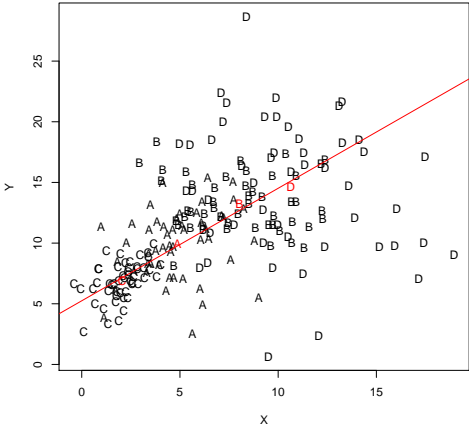
a)

$$\rho \approx 0.50$$

b)

	A	B	C	D
\overline{X}	4.88	8.03	2.06	10.64
\overline{Y}	9.91	13.24	6.89	14.68

c)



$\rho = 0.99$, which is much higher than the result from (a).

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$$\begin{aligned} g(a,b) &= \Sigma(y_i - \hat{y}_i)^2 \\ \implies \frac{\partial g}{\partial a} &= \Sigma \left(2(y_i - \hat{y}_i) \frac{\partial (y_i - (a + bx_i))}{\partial a} \right) \\ &\implies 0 = -2 \Sigma (y_i - \hat{y}_i) \\ &\implies \Sigma (y_i - \hat{y}_i) = 0 \quad \square \end{aligned}$$

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