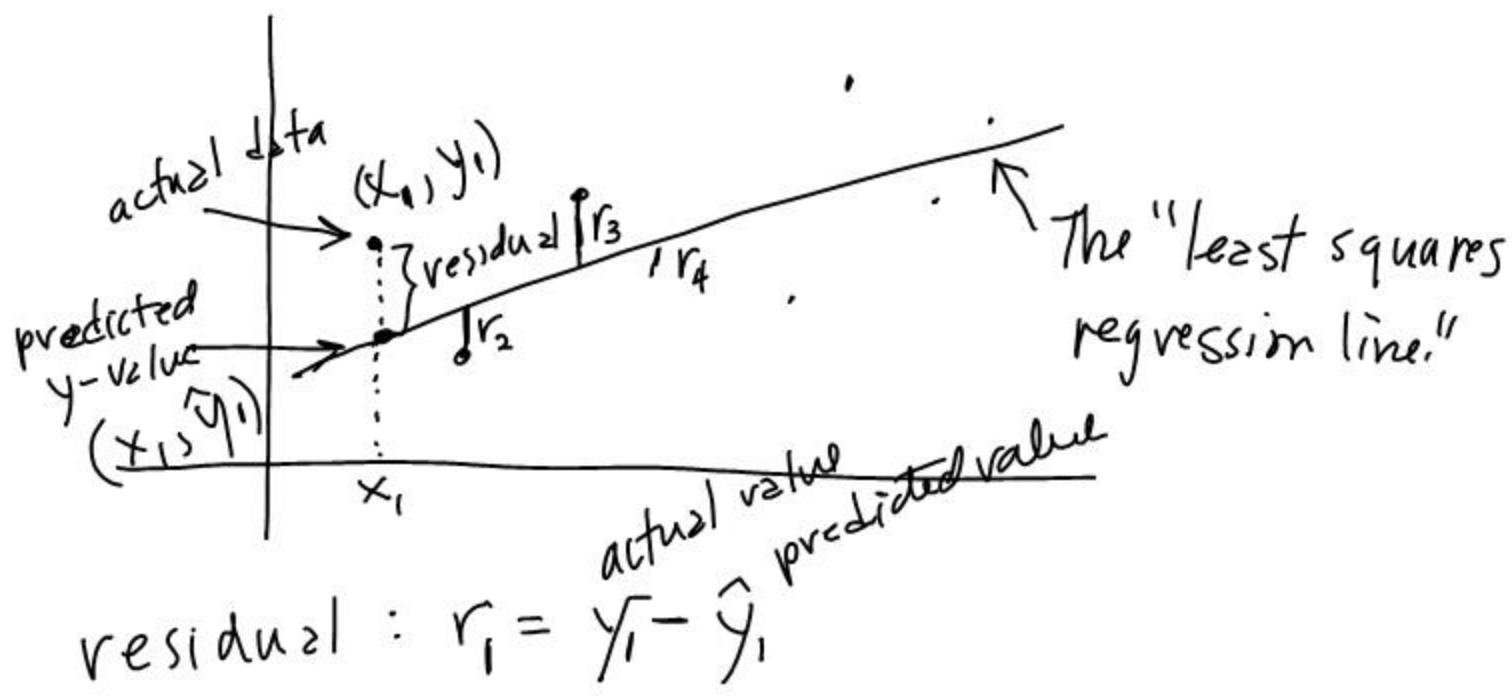


What makes the "line of best fit" the best one?



The best fit line is the one for which

$$r_1^2 + r_2^2 + r_3^2 + r_4^2 + \dots + r_n^2$$

is the smallest possible value.

p. 350 - The formula for finding
Pearson's product-moment correlation
coefficient (r)

$$\boxed{10 F} \quad \#1(a) \quad \hat{y} = 1.01x + 20.6$$
$$r = 0.863$$

(b) Find the residual for subject D.

$$r_D = y_D - \hat{y}_D$$
$$= 91 - Y_1(65)$$
$$= 4.79$$

(c) Find the residual for subject F.
actual - predicted

$$28 - Y_1(25) = -17.9$$

(d) Predict the Spanish score of a student who makes 60 on the French test.

$$\hat{Y}(60) = 1.01(60) + 20.6$$

$$Y_1(60) = 81.2$$

(e) Predict the French score for a student with 60 on the Spanish test.

$$\hat{y} = 1.01x + 20.7$$

$$60 = 1.01x + 20.7$$

$$x = \frac{60 - 20.7}{1.01} = \underline{\underline{38.9}}$$

(f) Predict the Spanish score for a student with 100 on the French test. NO

$$Y_1(100) = 121 \leftarrow \underline{\text{extrapolation}}$$

(g) Find the mean point (53.7, 74.8)
(\bar{x} , \bar{y})

HW



#3



#1-3