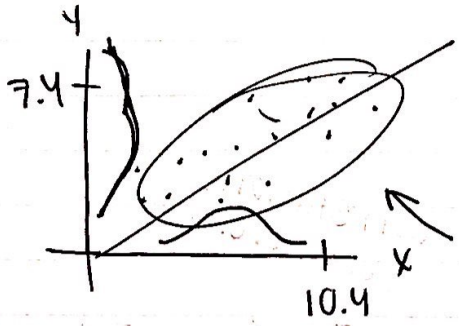
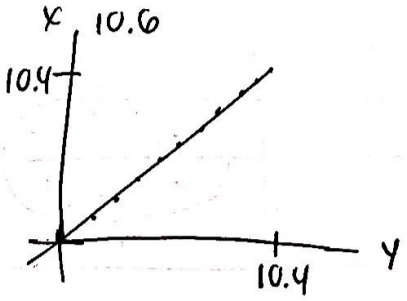
STAT 7 LECTURE 2 Independent ~~samp~~ samples 11/21/19

HW 3 due sun night
Quiz 7 due tonight
Quiz 8 due next tues
At least 1 make up lecture: mon 2 Dec and/or wed 4 Dec



elliptical scatterplot

bivariate normal dist.



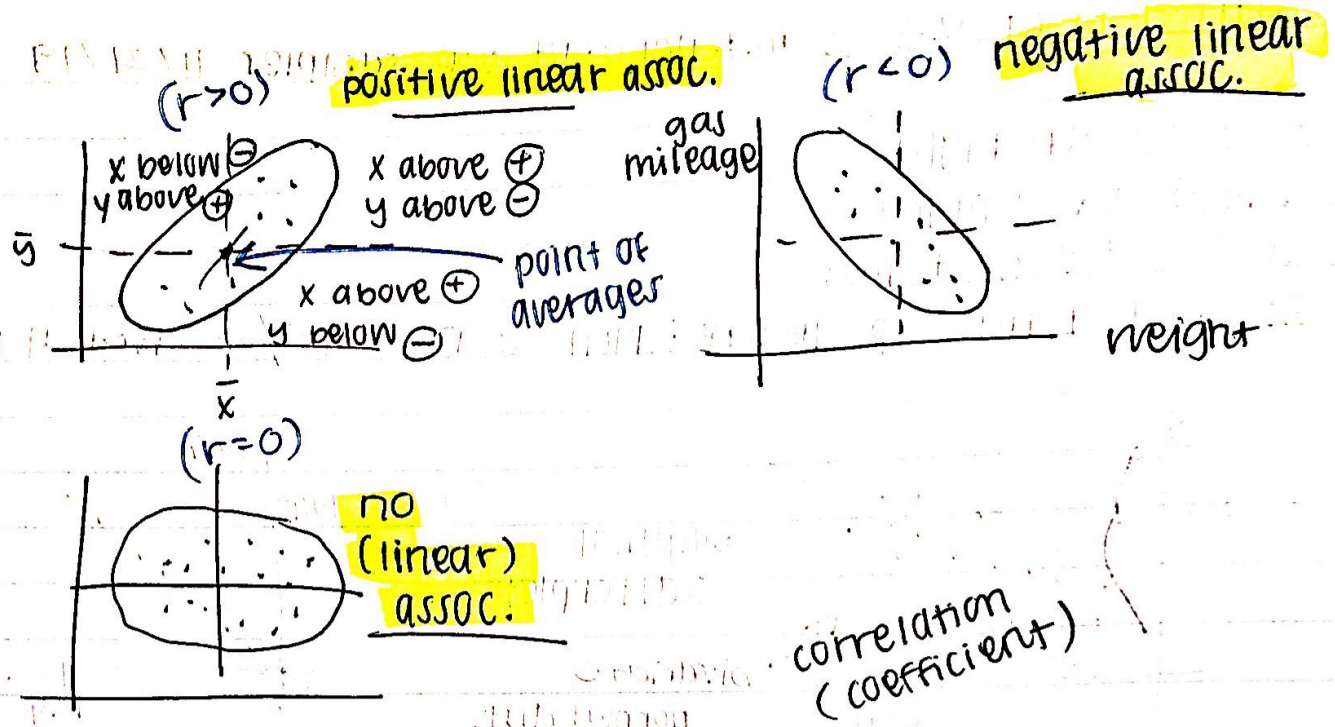
Karl Pearson
CEpson & Mymon

$$\left[\begin{array}{c|c} y_1 & x_1 \\ y_2 & x_2 \\ \vdots & \vdots \\ y_n & x_n \end{array}\right] \quad n$$

mean $\bar{y}$ | $\bar{x}$

SD* s_y* s_x*

$y = \_\_\_\_ x \_\_\_\_$



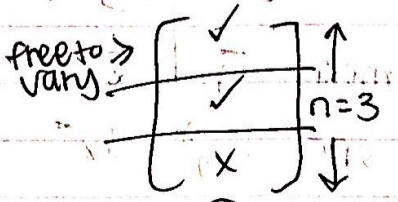
correlation (coefficient)

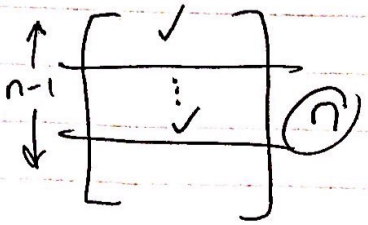
$$r = \frac{1}{n}\sum_{i=1}^{n}\left(\frac{x_i - \bar{x}}{s_x^*}\right)\left(\frac{y_i - \bar{y}}{s_y^*}\right)$$

$$s_x^* = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2} \quad \text{* similarly for } s_y^*$$

$$\begin{bmatrix} y_1 \\ \vdots \\ y_n \end{bmatrix}$$

mean $\bar{y}$





so $s_y = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(y_i - \bar{y})^2}$