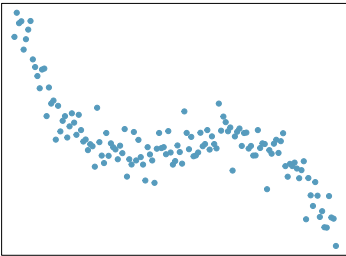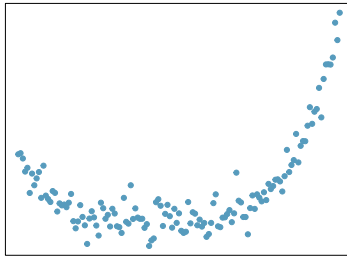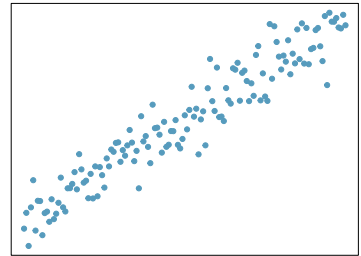# Correlation

Identify relationships, Part II (8.4)

For each of the six plots, identify the strength of the relationship (e.g. weak, moderate, or strong) in the data and whether fitting a linear model would be reasonable.
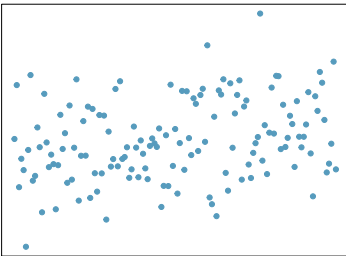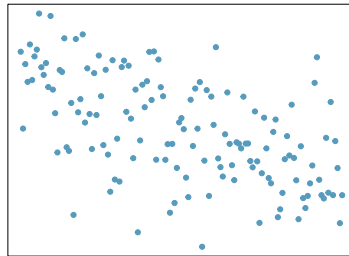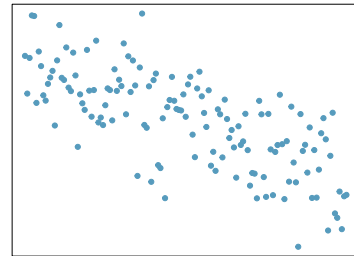

(a)   (b)   (c)

(d)   (e)   (f)

Husbands and wives, Part I (8.6)

The Great Britain Office of Population Census and Surveys once collected data on a random sample of 170 married couples in Britain, recording the age (in years) and heights (converted here to inches) of the husbands and wives. The scatterplot on the left shows the wife's age plotted against her husband's age, and the plot on the right shows wife's height plotted against husband's height.
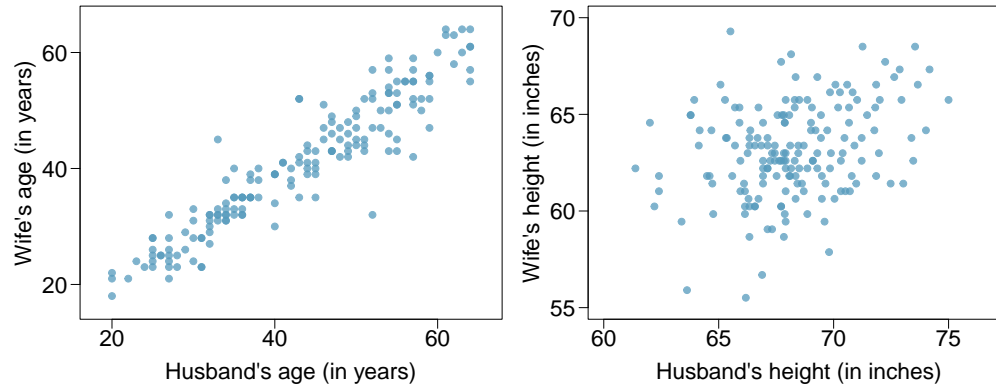

- Describe the relationship between husbands' and wives' ages.

- Describe the relationship between husbands' and wives' heights.

- Which plot shows a stronger correlation? Explain your reasoning.

- Data on heights were originally collected in centimeters, and then converted to inches. Does this conversion affect the correlation between husbands' and wives' heights?
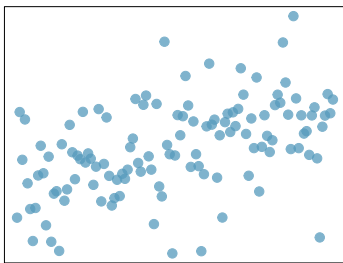
Match the correlation, Part II (8.8)

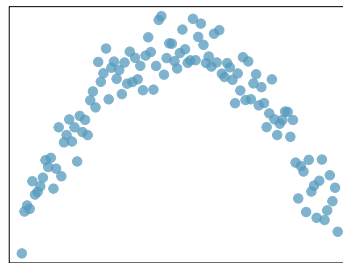Match each correlation to the corresponding scatterplot.

- $R = 0.49$
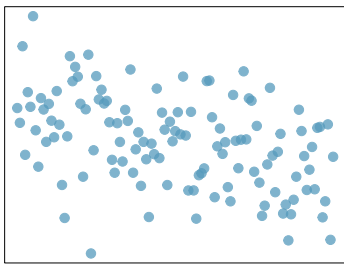- $R = -0.48$
- $R = -0.03$
- $R = -0.85$
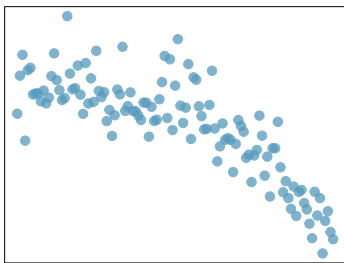
(1)

(2)

(3)

(4)

Guess the correlation (8.10)

Eduardo and Rosie are both collecting data on number of rainy days in a year and the total rainfall for the year. Eduardo records rainfall in inches and Rosie in centimeters. How will their correlation coefficients compare?