

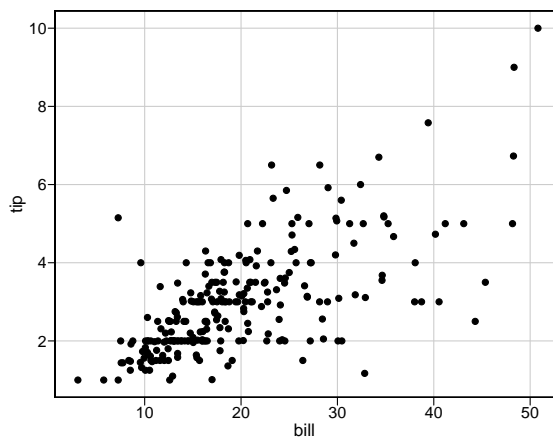
# Stat101 Worksheet

## Association, Correlation

Name:

In one restaurant, a food server recorded the following data on all customers they had served during a interval of two and a half months in early 1990. The restaurant, located in a suburban shopping mall, was one of a national chain and served a varied menu. In observance of local law the restaurant offered seating in a non-smoking sections to patrons who requested it. The data was reported in a collection of case studies for business statistics by Bryant and Smith (1995).

- Below is a scatterplot of tips against the total bill. Check the boxes that appropriately describe the association.



- ☐ Positive
- ☐ Negative
- ☐ Linear
- ☐ Non-linear
- ☐ None
- ☐ Heteroskedastic
- ☐ Outliers

- Below are four scatterplots of tips against total bill broken down by two variables in the data. Which of the following are correct?

- ☐ For smoking parties there is less association amongst tips and total bill.
- ☐ The correlation for female non-smokers is lower than for female smokers.
- ☐ Except for three outliers (cheap tippers) female non-smokers are the most consistent tippers.
- ☐ Most of the large tips and large total bills were paid by males.
- ☐ The unusually high tip, of \$5 on an \$8 bill, was paid by a female non-smoker.
- ☐ There is very weak association between tip and total bill for non-smokers.

