## Homework Assignment 1: Due at the beginning of class 9/21/01

The eleven states with the most hazardous waste sites[1] are shown in Table 1.1 below. (Use the information in this table to answer Questions 1 and 2.)

| State | Nonfederal Waste Sites | Federal Waste Sites |
|---|---|---|
| New Jersey | 102 | 6 |
| Pennsylvania | 91 | 6 |
| California | 68 | 23 |
| New York | 75 | 4 |
| Michigan | 72 | 0 |
| Florida | 47 | 6 |
| Washington | 33 | 14 |
| Wisconsin | 39 | 0 |
| Illinois | 34 | 4 |
| Ohio | 30 | 3 |
| Oklahoma | 30 | 3 |

Table 1.1: States with the Most Hazardous Waste Sites (1998).

**1.** Is the number of Federal Waste Sites a function of the number of Nonfederal waste sites? Represent the relationship using an arrow diagram.

**2.** Is the number of Nonfederal Waste Sites a function of the number of Federal waste sites? Represent the relationship using an arrow diagram.

Table 1.2 (below) shows the percentage of people who had completed 4 years or more of high school and four years or more of college[2]. In this problem, you will investigate whether or not there is a connection between whether or not high school graduation affects college graduation. (Use Table 1.2 to answer questions 3, 4 and 5.)

| Year | Percentage of People with 4 or more years of high school | Percentage of People with 4 or more years of college |
|---|---|---|
| 1940 | 24.5 | 4.6 |
| 1950 | 34.3 | 6.2 |
| 1959 | 43.7 | 8.1 |
| 1970 | 55.2 | 11.0 |
| 1980 | 68.6 | 17.0 |
| 1991 | 78.4 | 21.4 |
| 1991 | 79.4 | 21.4 |
| 1993 | 80.2 | 21.9 |
| 1994 | 80.9 | 22.2 |
| 1995 | 81.7 | 23.0 |
| 1996 | 81.7 | 23.6 |
| 1997 | 82.1 | 23.9 |
| 1998 | 82.8 | 24.4 |

Table 1.2: Percentages of People with 4 or more years of high school and college.

[1] Source: Environmental Protection Agency.
[2] Source: Bureau of the Census, Current Population Survey, Educational Attainment in the United States, March 1998.

**3.** One popular theory holds that the more people who graduate from high school, the more people will graduate from college. Can you think of any reasons to suspect that this theory might be correct? If you were going to test this theory by plotting a graph, what information would you plot? Be sure to explain your reasons for choosing the information.

**4.** One option is to plot a graph of college percentage versus high school percentage. If the theory is correct, what would you expect this plot to look like? How big should the axes be to accommodate all of the data points?

**5.** Does the percentage of people graduating from college seem to be connected with the percentage of people graduating from high school? Explain your conclusions and give evidence to support them.