Problems to be handed in:

1) Submit electronically exercises 67-71 from Unit A5 of *CyberStats*.

2) This question involves the same information on the poverty and employment in U.S. States as questions 67-71 from Unit A5 of *CyberStats*. There is some background information on the data set linked there. In brief, the data set contains several measurements on the 50 states plus D.C. collected in 1994/95. The Poverty variable is the percentage of people below the poverty line and Employment is percentage of people employed. This is an ongoing process - see http://www.census.gov/statab/www/ranks.html.

Create a grouped version of the Employment variable using the Data > Bin Columns menu option. This creates an ordinal categorical variable with three categories of Employment (50 to 60, 60 to 70, 70 to 80). This new variable is called Bin(Employment). Using the Graphics > Boxplot menu option, create a boxplot of Poverty, Grouped by: Bin(Employment). Save the boxplot in your homework report.

Is there a relationship between the levels of Employment and Poverty? How does the variation in Poverty depend on the level of Employment? What is the approximate ratio of IQR for the States with employment from 70 to 80 to the group of States with employment from 50 to 60?

3) Exercise 5.1 from page 161 in Chapter 5: “Relationships between Quantitative Variables” of MOS.

   a) Amount of alcohol consumed and performance on a test of coordination

   b) Height and grade point average for college students.

   c) Miles of running per week and time for a 5-kilometer run.

   d) Forearm length and foot length.

4) Exercise 5.27 from page 164 in Chapter 5: “Relationships between Quantitative Variables” of MOS.

   a) Which graph shows the strongest relationship between the two variables? Which graph shows the weakest?

   b) In scrambled order, correlation values for these four graphs are -0.9, 0, +0.3, +0.6. Match these correlation values to the graphs.

5) Exercise 5.29 from page 164 in Chapter 5: “Relationships between Quantitative Variables” of MOS.

6) Exercise 5.38 from page 165 in Chapter 5: “Relationships between Quantitative Variables” of MOS.
7) Exercise 5.46 from page 166 in Chapter 5: “Relationships between Quantitative Variables” of MOS.

a)

b)

c)