CS1173 HW2: Practice sheet Name:_____

This course is about drawing meaningful information from data. Usually we start with the data in a table such as the one given below. We often do some basic calculations to get a general sense of the data and then graph the data before making interpretations. The following table gives the counts of bacteria at two beaches in units of CFUs/100ml. Calculate the following values from the table. Think about the operations needed to compute each value, since soon you will write MATLAB programs to do the same.

Day	Beach 1 count	Beach 2 count
1	10	20
5	80	20
6	30	50
8	20	40
10	50	30
15	10	20
20	40	10

a) Total count at Beach 1: _____

b) Overall total count: _____

c) Total count on day 5: _____

d) Maximum count on Beach 1: _____

e) Overall maximum count: _____

f) % of Beach 1's count occurring on Day 15: _____

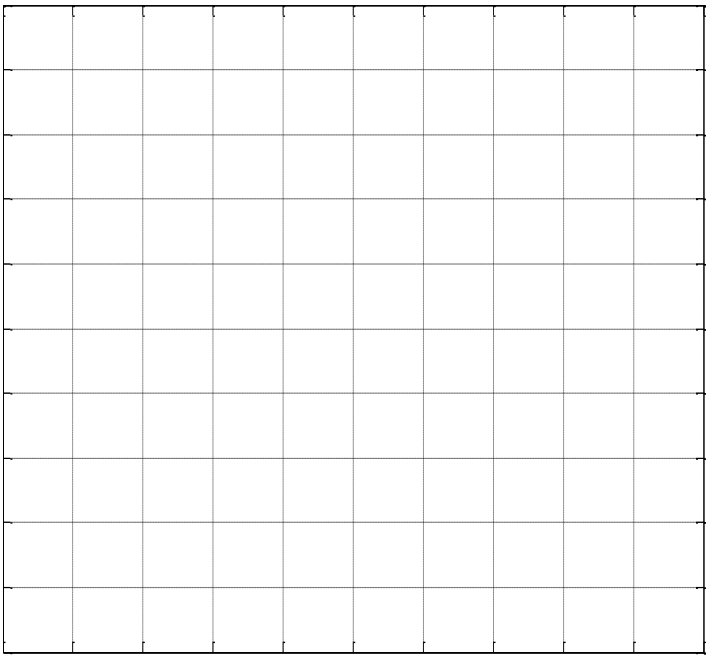
g) % of Day 5's count occurring on Beach 1: _____

h) % of the total bacteria represented by Beach 1: _____

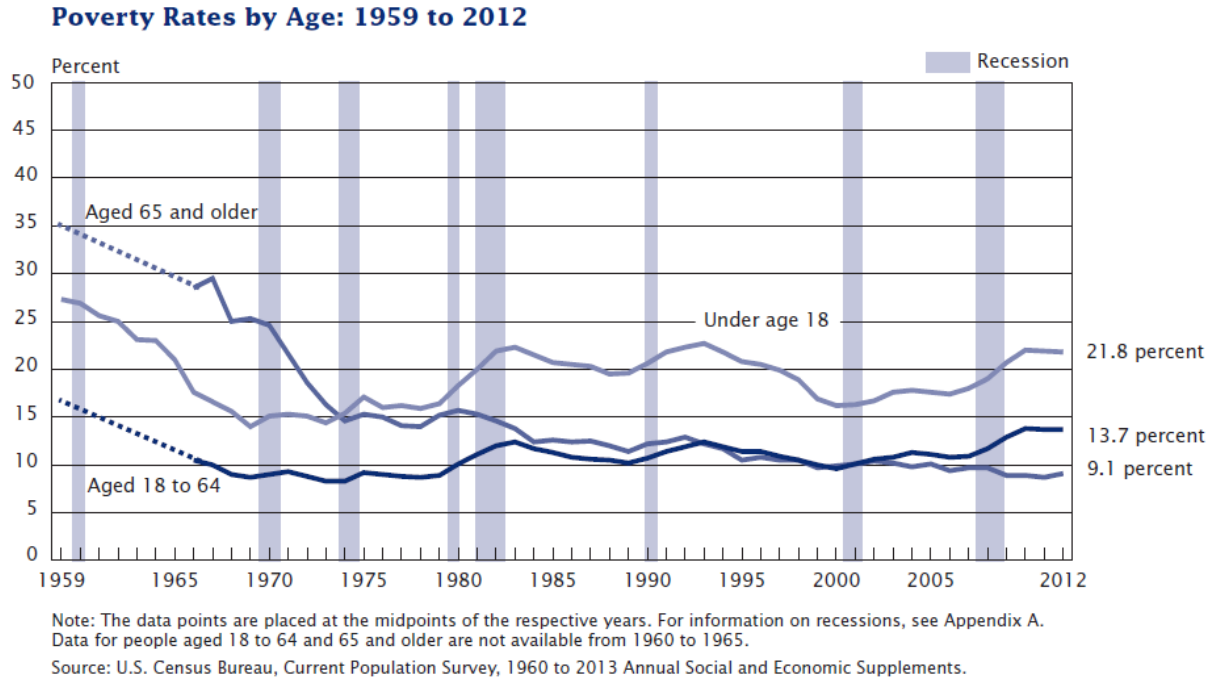
i) Fraction of Beach 1's count occurring on Day 6: _____

j) Fraction of Beach 1's count occurring on the combination of days 1, 5, 6: _____

Plot the two beach counts versus day using a line graph. Include appropriate labels, ticks, title, and legend.



The following more professional graph from the US Census summarizes US poverty rates by age. You can find the full report: https://www.census.gov/hhes/www/poverty/data/incpovhlth/2012/. **Answer the following questions.**



Note: You can find a color version of this figure at: https://www.census.gov/hhes/www/poverty/data/incpovhlth/2012/figure5.pdf.

Provide a detailed quantitative observation about poverty levels of US adults aged 18 to 64 from this graph.

Make a detailed quantitative observation about how the latest recession affected poverty levels of the different age groups. Come up with at least one explanation of why this might be the case.

Describe the trends (i.e., increasing, decreasing) in poverty levels of senior citizens for the period 1959 to 2012. Give a possible explanation of these trends.