ECO 391
Last Name:_____
First Name:_____
Activity #6 Credit (25 points)
Chapter 16.2

Open up a Word file and write the answers to this activity on that file. You will be required to upload that file on to Canvas.

Life expectancy at birth is the average number of years that a person is expected to live. There is a huge variation in life expectancies between countries, with the highest being in Japan, and the lowest in some African countries. An important factor for such variability is the availability of suitable health care. One measure of a person's access to health care is the people-to-physician ratio – the number of people per physician. The data set Chapter 16 Life_Expectancy lists a portion of life expectancy of males and females in 40 countries and corresponding people-to-physician ratio.

a) What do you expect the relationship of life expectancy and people-to-physician ratio to be? Explain in words.
b) Construct a scatterplot of **female life expectancy** against the **people-to-physician ratio**. Superimpose a linear trendline and a logarithmic trendline to determine the appropriate model. (Try to caption your plot with an appropriate title) Save the scatterplot and paste it onto the Word file which you intend to submit. Which model looks more appropriate?
c) Estimate a simple linear regression model with life expectancy of females as the response variable and the people-to-physician ratio as the explanatory variable. Interpret the slope coefficient. What happens to life expectancy of females as the people-to-physician ratio decreases from 1000 to 500?
d) Estimate a logarithmic regression model with the natural log of the people-to-physician ratio as the explanatory variable. Interpret the slope coefficient. What happens to the life expectancy of females as the people-to-physician ratio decreases from 1000 to 500?
e) Use a goodness-of-fit measure to determine which of the preceding two models is more appropriate.

Try to make it look like a report!