NAME:

Project 7: Comparing Life Expectancies

Please use the following to answer the questions for Project 7. Make sure to answer the question in complete sentences with proper grammar and spelling. This document should be saved as a PDF and submitted via Gradescope.

Questions:

Double click where it says "Name:" at the top of this document and type your name there.

A) Is the life expectancy data numerical or categorical? If it is numerical is it discrete or continuous?

B) Copy and Paste Rows 1-10 of your table containing the life expectancies here. (Make sure your answer follows the instructions and fits fully on page 1)

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C) Copy and Paste your scatterplot here (prior to adding any lines).

D) Is the data for the life expectancy **in Japan** roughly linear? Why or why not?

E) Is the data for the life expectancy **in the United States** roughly linear? Why or why not?

F) Is the data for the life expectancy **in Slovakia** roughly linear? Why or why not? (Make sure your answer is fully on page 2)

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G) Copy and Paste your scatterplot with the linear regression lines, equations and R^2 values. (Make sure your answer fits fully on page 3)

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H) Answer the following questions regarding the data **for Japan**:

a. What is the equation for the linear model?

b. In context of the problem, what does the slope mean?

c. What does the model predict as the life expectancy at birth for someone born in 2015?

d. Use your favorite online search engine to find the life expectancy at birth for 2015 in Japan.

e. Compare your answers to the last two parts. Do you think the linear model is a good prediction? Why or why not? (Make sure your answer fits fully on page 4)

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I) Answer the following questions regarding the data **<u>for the United States</u>**:

a. What is the equation for the linear model?

b. What is the y-intercept? In context of the problem, what does it mean?

c. What does the model predict the life expectancy at birth for someone born in 2015?

d. Use your favorite online search engine to find the life expectancy at birth for 2015.

e. Compare your answers to the last two parts. Do you think the linear model is a good prediction? Why or why not? (Make sure your answer fits fully on page 5)

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J) Answer the following questions regarding the data **<u>for Slovakia</u>**:

a. What is the equation for the linear model?

b. According to the model what is the life expectancy at birth going to be in 50 years in Slovakia?

c. Does model breakdown occur? If so, where does it occur? How do you know?

d. What does the model predict the life expectancy at birth for someone born in 2015?

e. Use your favorite online search engine to find the life expectancy at birth for 2015.

f. Compare your answers to the last two parts. Do you think the linear model is a good prediction? Why or why not? (Make sure your answer fits fully on page 6)

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K) We now analyze the ***r***-values:

a. What is the ***r***-value for Japan? What does it tell you about the strength of the association?

b. What is the ***r***-value for the United States? What does it tell you about the strength of the association?

c. Compare the ***r***-values for Japan and the United States. Write a sentence that explains what this tells you about the relative strengths of the association of the two data sets.

d. What is the ***r***-value for Slovakia? What does it tell you about the strength of the association?

e. Do you think the ***r***-value for Slovakia is representative of the data? Why or why not? (Make sure your answer fits fully on page 7)