Project: Diamond Prices

Complete each section. When you are ready, save your file as a PDF document and submit it here:
https://classroom.udacity.com/nanodegrees/nd008/parts/235a5408-0604-4871-8433-a6d670e37bbf/project#

Step 1: Understanding the Model

Answer the following questions:

1. According to the model, if a diamond is 1 carat heavier than another with the same cut, how much more should I expect to pay? Why?

if diamond is 1 carat heavier than another with the same cut, you should pay 8,413$ more, Because of increase of 1-carat times the coefficient of 8413 equals a price increase of 8413

2. If you were interested in a 1.5 carat diamond with a **Very Good** cut (represented by a 3 in the model) and a **VS2** clarity rating (represented by a 5 in the model), how much would the model predict you should pay for it?

Price = -5269 + 8413 * 1.5 Carat + 158.1 * 3 Cut + 454 * 5 Clarity = 10,095$

You have to pay 10,095$ dollar for 1.5 carat diamond with a very good cut and vs2 clarity.

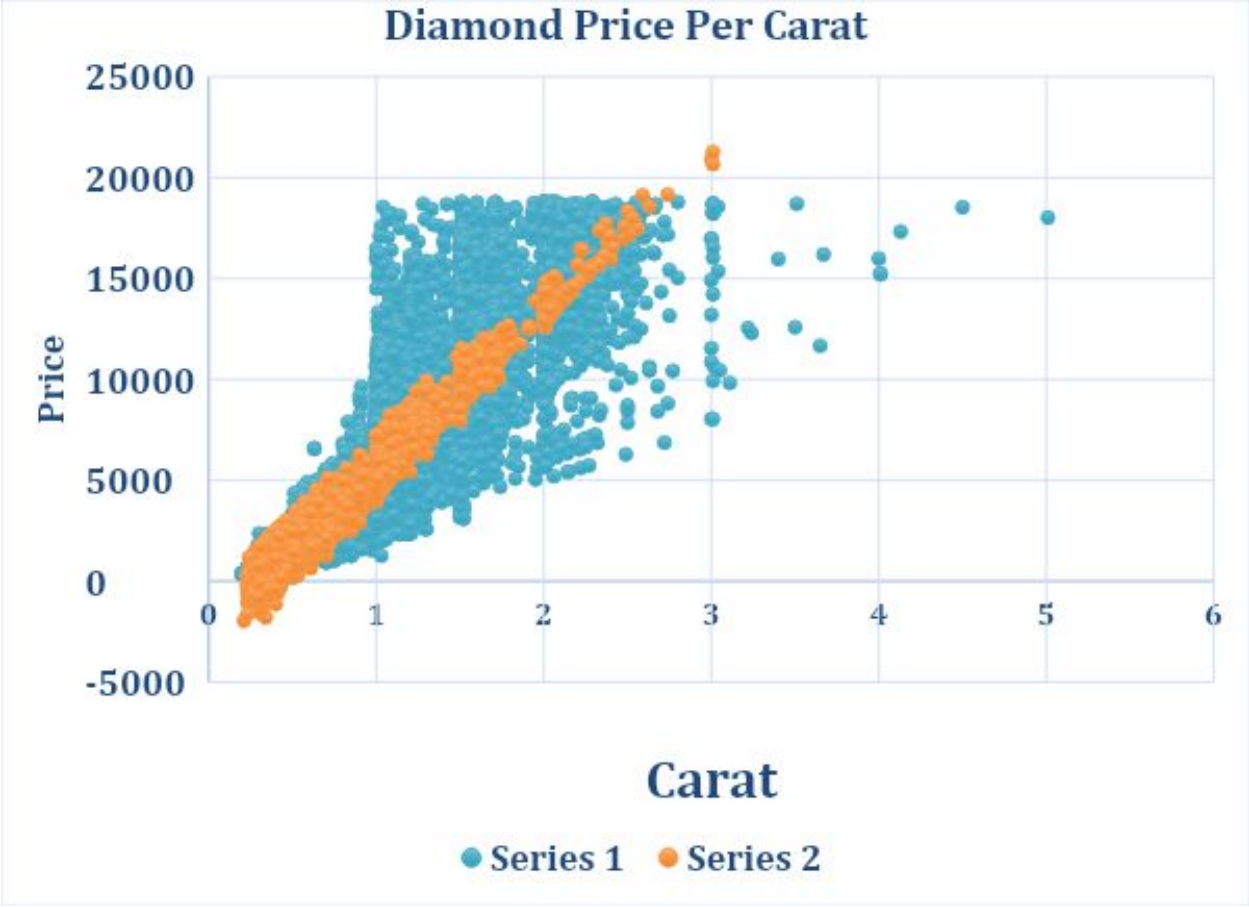
Step 2: Visualize the Data

Make sure to plot and include the visualizations in this report. For example, you can create graphs in Excel and copy and paste the graphs into this Word document.

1. Plot 1 - Plot the data for the diamonds in the database, with carat on the x-axis and price on the y-axis.
2. Plot 2 - Plot the data for the diamonds for which you are predicting prices with carat on the x-axis and predicted price on the y-axis.
    - **Note**: You can also plot both sets of data on the same chart in different colors.

3. What strikes you about this comparison? After seeing this plot, do you feel confident in the model's ability to predict prices?

Here a Scatter plot chart show historical diamond price as series 1 and predictive diamond price as series 2



We have a problem about the model, and it is showing the price with minus (-) and we don't have a price with negative numbers as it shown in predicted price and we should fix that

Step 3: Make a Recommendation

Answer the following questions:

1. What price do you recommend the jewelry company to bid? Please explain how you arrived at that number.

I recommend paying 8,213,466 $ to get the jewelry as the model show 11,733,523 $ of total price for end customer and if we multiply that with 70% as company price, we got 8,213,466$