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?

   The information required to properly predict the price also includes the clarity factor. Hence, the difference in price between the two diamonds can be properly predicted only when their respective clarities are known.

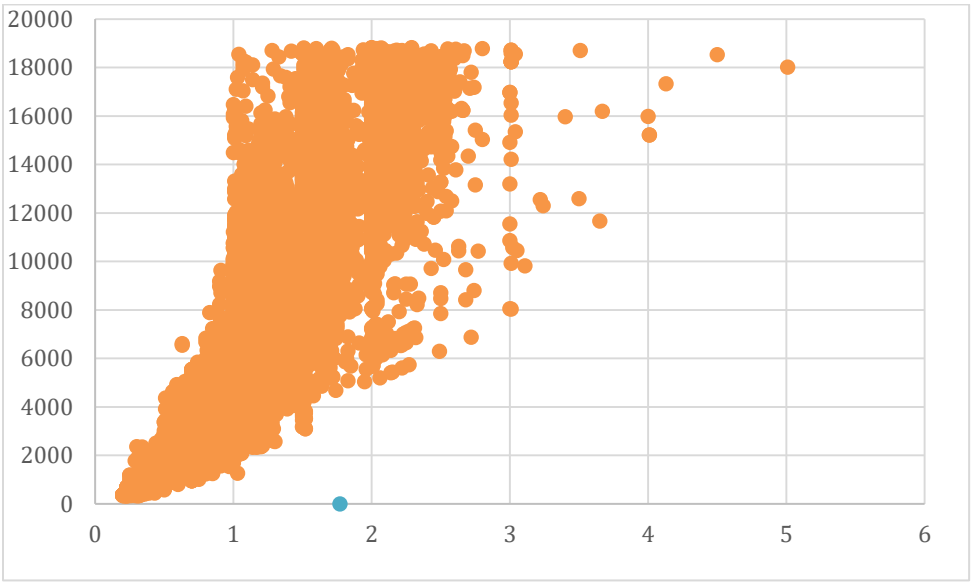
2. If you were interested in a 1.5 carat diamond with a **Very Good** cut (represented by a 3 in the model) and a **VS2** clarity rating (represented by a 5 in the model), how much would the model predict you should pay for it?

   31127.3

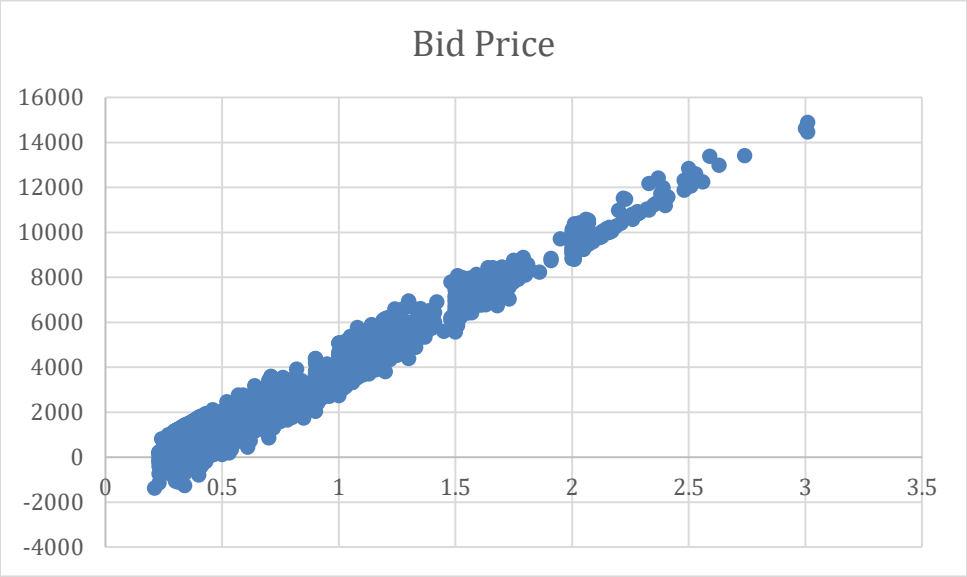
Step 2: Visualize the Data

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.



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

   The model is able to predict prices that are consistent over the various factors under consideration i.e. Cut, colour and clarity.
   The model seems to predict prices well.

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.

   Recommended bid price for 3000 diamonds is **8437.583.** This price was arrived at by totalling the total prices of the 3000 diamonds arrived via the supplied formula and multiplying it by 0.7 to account for the price the company pays to distributors since supplied formula gives final retail price and distributor price is generally 70% of the retail price.