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 a diamond is 1 carat heavier considering same cut and same clarity then you should pay 8413 more dollars . As from the model given

   Price = -5,269 + 8,413 x **Carat** + 158.1 x **Cut** + 454 x **Clarity**

   As in the model given for each carat the weight of the model is 8413 times more so for 1 carat heavier it will be 8413 dollars more considering all other parameters are same.

   : Awesome: Good job coming up with the correct answer.

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?

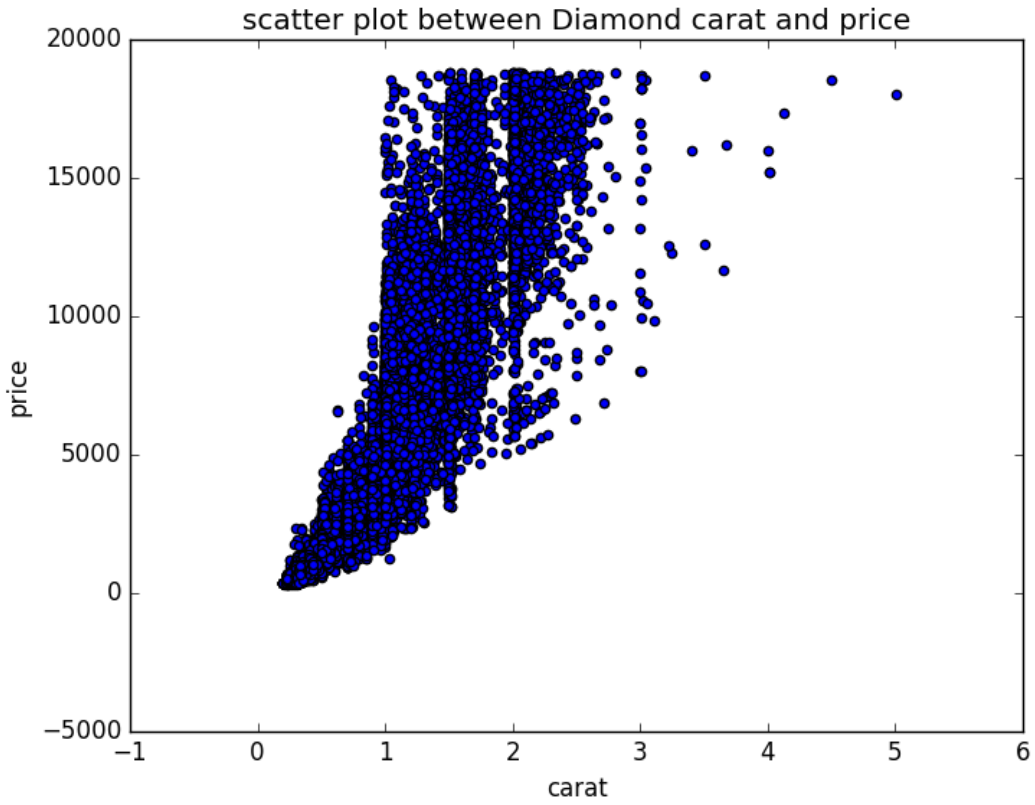
   By the data given above ,putting it in our model we get 10,094.8 dollars .

   : Awesome: Well done using the regression equation correctly.

Step 2: Visualize the Data

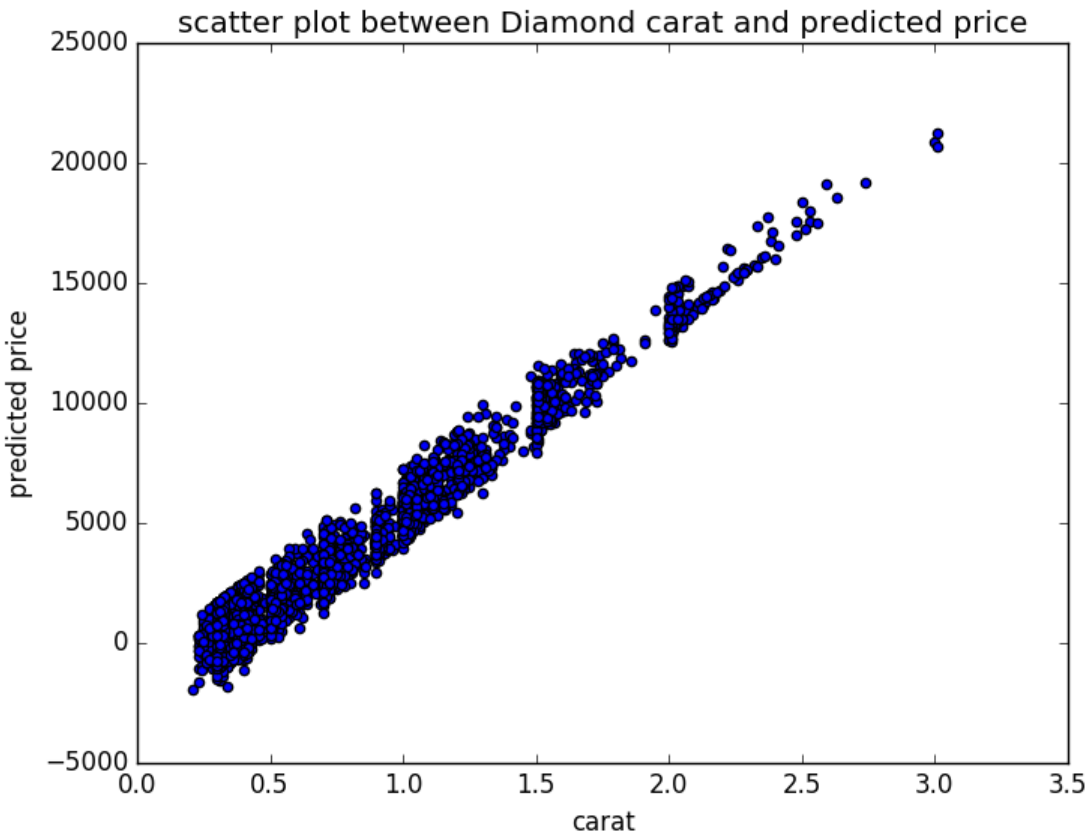
Make sure to plot and include the visualizations in this report. For example, you can create graphs in Excel and copy and paste the graphs into this Word document.

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.



: Awesome: Great job coming up with the correct plots. It's perfectly fine to use Python to plot the graphs. However, I would suggest you to use Alteryx for the future projects, just for the sake of consistency between what you learn in the lessons and what you apply in the projects.

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

   The first plot is not linear like second plot of predicted price .But as it is considered by only taking carat parameter of diamond but there are different parameter like cut, color, clarity . In second plot it pretty linear relationship between the carat and predicted price .

: Awesome: Adding on to your answer, it should be noted that while on average the model may do a good job, for any particular diamond the prediction could be way off. I would not be confident using this to set prices for each diamond, though it seems like it would still be somewhat useful to set a bid price.

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.

The jewelry company should bid around 11733523 dollars .But it should not be exact . It is just a estimate price as in my model some diamonds are give negative price which is not possible .So I would recommend that it should be near that amount .I arrive at that number by adding all the predicted price of the diamonds .

: Suggestion: There's a small step you missed here. I recommend a bid of $8,213,465. I arrived at this number by predicting the diamond price for each diamond. I used the provided formula, and plugged in the values in Excel. Then I added all the predictions together to come up with the sum of the predictive price of the diamond set. Lastly, I multiplied this number by 70% to account for the desired gross margin.