

## Project: Diamond Prices

### Step 1: Understanding the Model

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?

For example, if it's with Ideal cut and VS2 clarity:

- 1 carat diamond's price is 6204.5 USD.
- 2 carat diamond's price is 14617.5 USD.

You should expect to pay a 8413 USD more, cause the more carat the diamond has, the more expensive its price become.

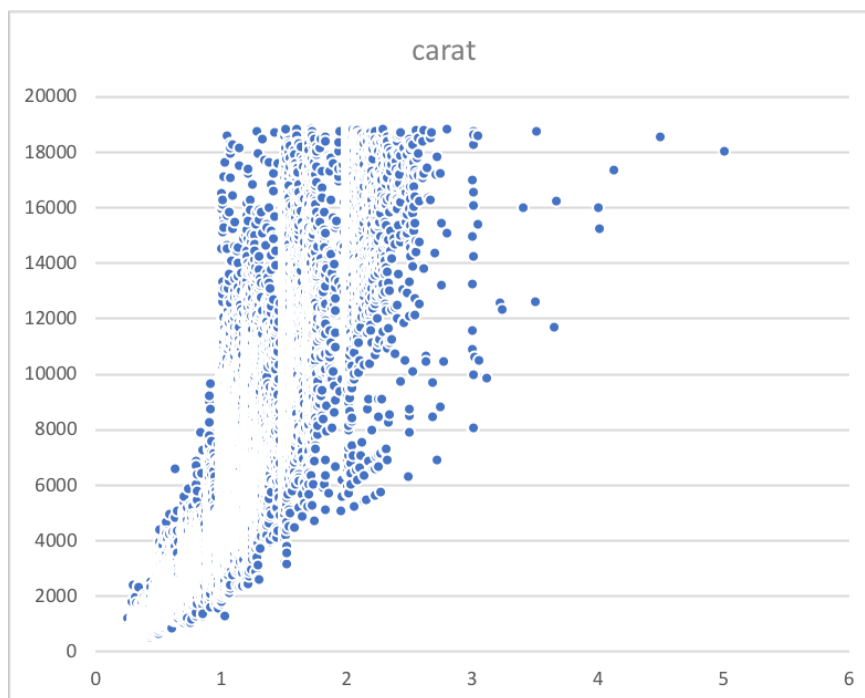
2. If you were interested in a 1.5 carat diamond with a **Very Good** cut (represented by a 3 in the model) and a **VS2** clarity rating (represented by a 5 in the model), how much would the model predict you should pay for it?

The predicted price is 10094.8 USD.

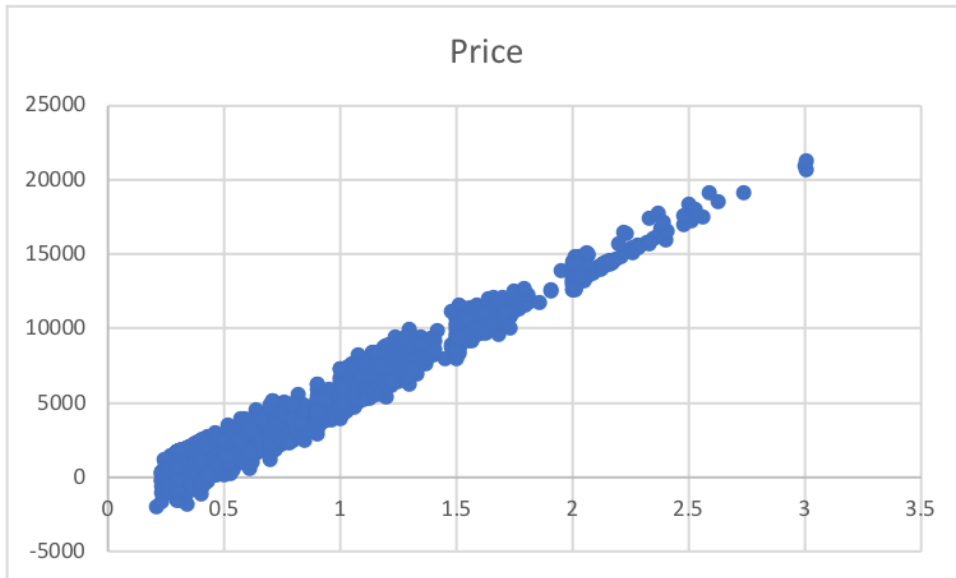
### Step 2: Visualize the Data

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 :



2. Plot 2 :



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

It might be a 75-90% correct or almost equal to the actual prices.

## Step 3: Make a Recommendation

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

Minimum bid price is 11733522.76 USD as the sum of all predicted prices of new diamonds and the maximum 15000000 USD to include any price correction.