**MTH 1210 Lab 7 Answer Sheet**

## Part A

[**Copy and paste the first scatterplot here**]

**Question 1**. Describe the overall pattern in the scatterplot (Is the relationship positive or negative? Is it approximately linear? Are there any distinct features in the plot? Outliers?)

**Question 2**. Notice from the scatterplot that none of the diamonds listed have weights just below 1.0 carat, but a substantial number of them are listed as weighing 1.0 carat. How do you explain this pattern in the scatterplot? **Hint**: The weights are as reported by jewelers trying to sell their diamonds for the highest price.

## Part B

[**Copy and paste the second scatterplot here**]

**Question 1**. Does the plot suggest that the price of a diamond related to its color? For a given weight, which color category (D, E, F, G, H, or I) sells for the lowest price?

## Part C

**Question 1.** Give the value of the correlation *r* between Round1 and Round2 scores.

**Question 2.** The strength of a linear relationship can be classified as weak, moderate, or strong using the following criteria:

|  |  |
| --- | --- |
| **Correlation *r*** | **Strength of linear relationship** |
| 0.0 to 0.5 | Weak |
| 0.5 to 0.8 | Moderate |
| 0.8 to 1.0 | Strong |

Is the strength of the linear relationship between **Round1** and **Round2** scores weak, moderate, or strong?

## Part D

[**Copy and paste the third scatterplot here**]

**Question 1.** Give the equation of the regression line.

**Question 2.** Using the equation of the regression line, predict the **Round2** score for a golfer who scores 100 on **Round1**.

**Question 3.** Using the equation of the regression line, by how much does the **Round2** score tend to increase for each increase of 1 unit on the **Round1** score?

**Question 4.** Using information from the regression output in the Session window, what percentage of the variation in **Round2** scores can be explained by the **Round1** score? **Hint**: This is the r2 value (expressed as a percent).