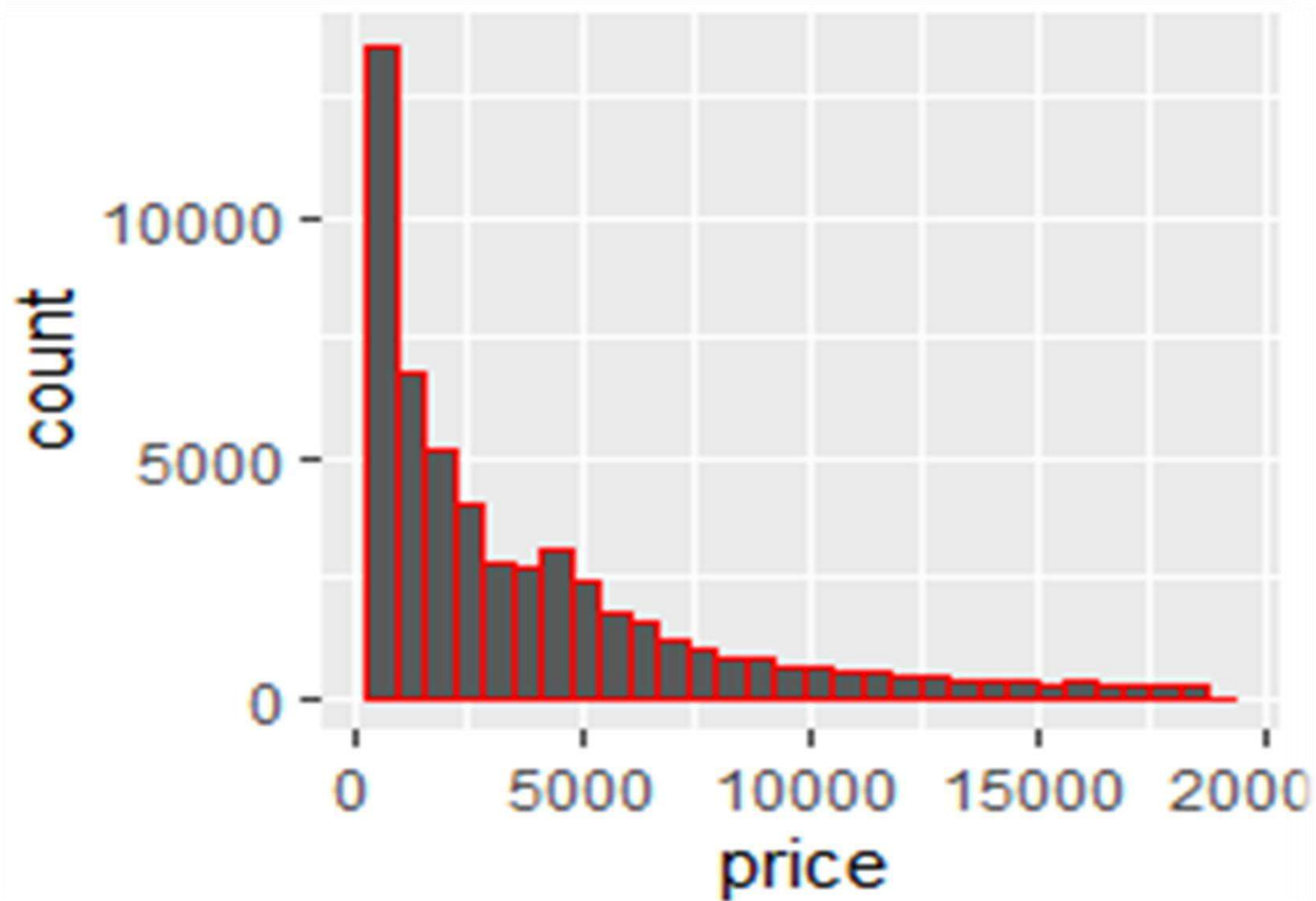# DATA VISUALIZATION USING GGPLOT - R

CELSIYA A
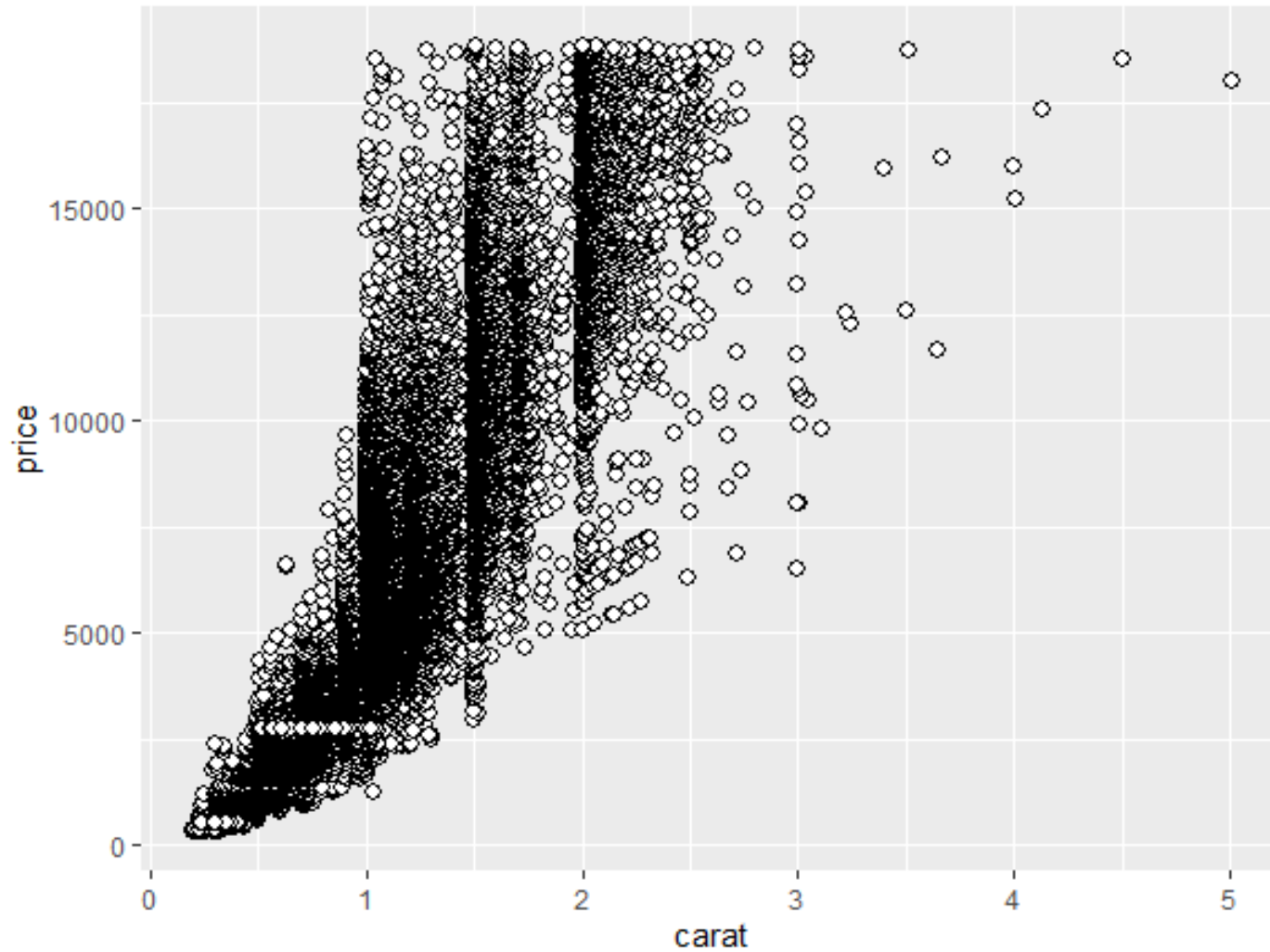
PROBLEM STATEMENT

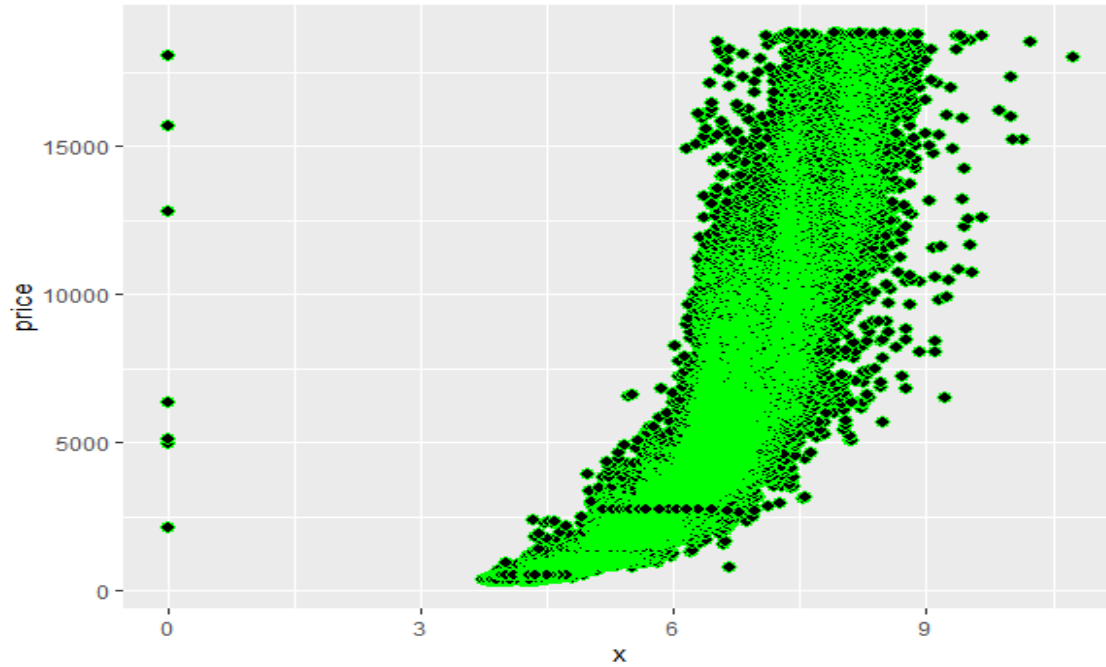### UNDERSTANDING THE PRICE OF THE DIAMOND WITH THE OTHER VARIABLES

The histogram shows the distribution of price of the diamond. The highest number of diamond lies below the price 5000.
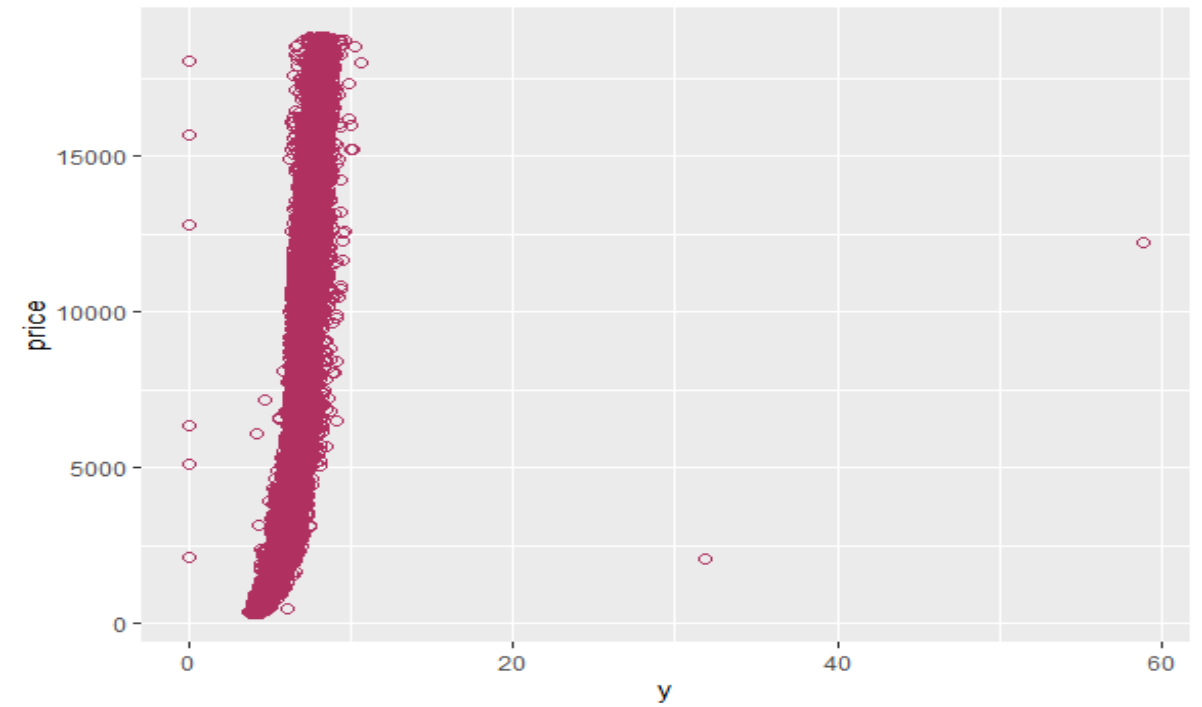
Carat vs Price

This scatter plot indicates the relation between price and carat. Carat is most correlated variable with price. Carat(weight) price increases the price of the diamond also in increases. Bigger the diamond, higher the price.
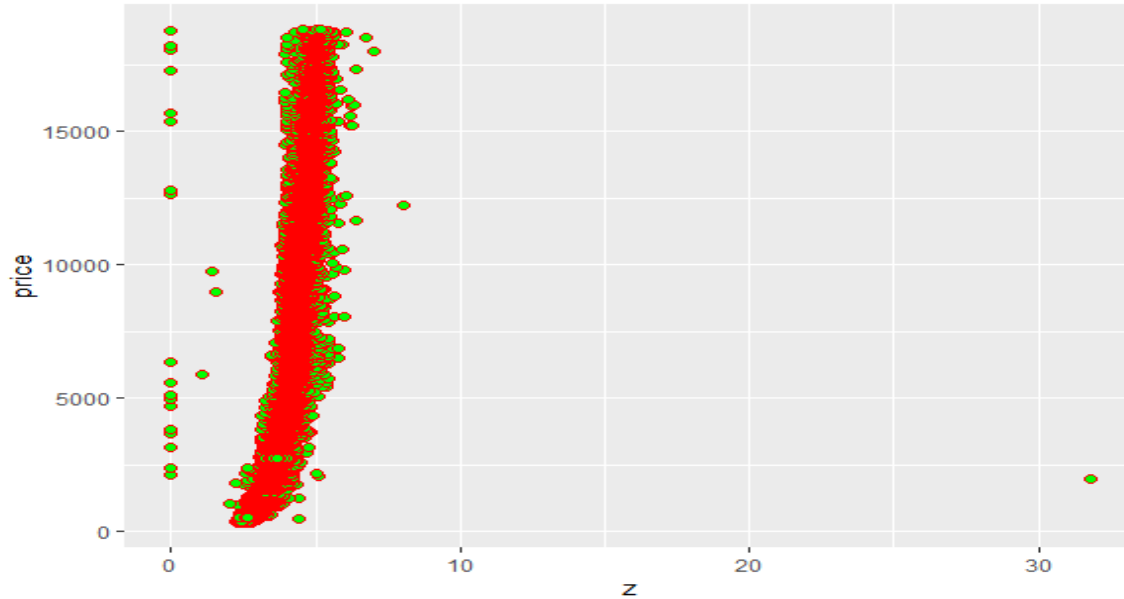
x(length) vs Price
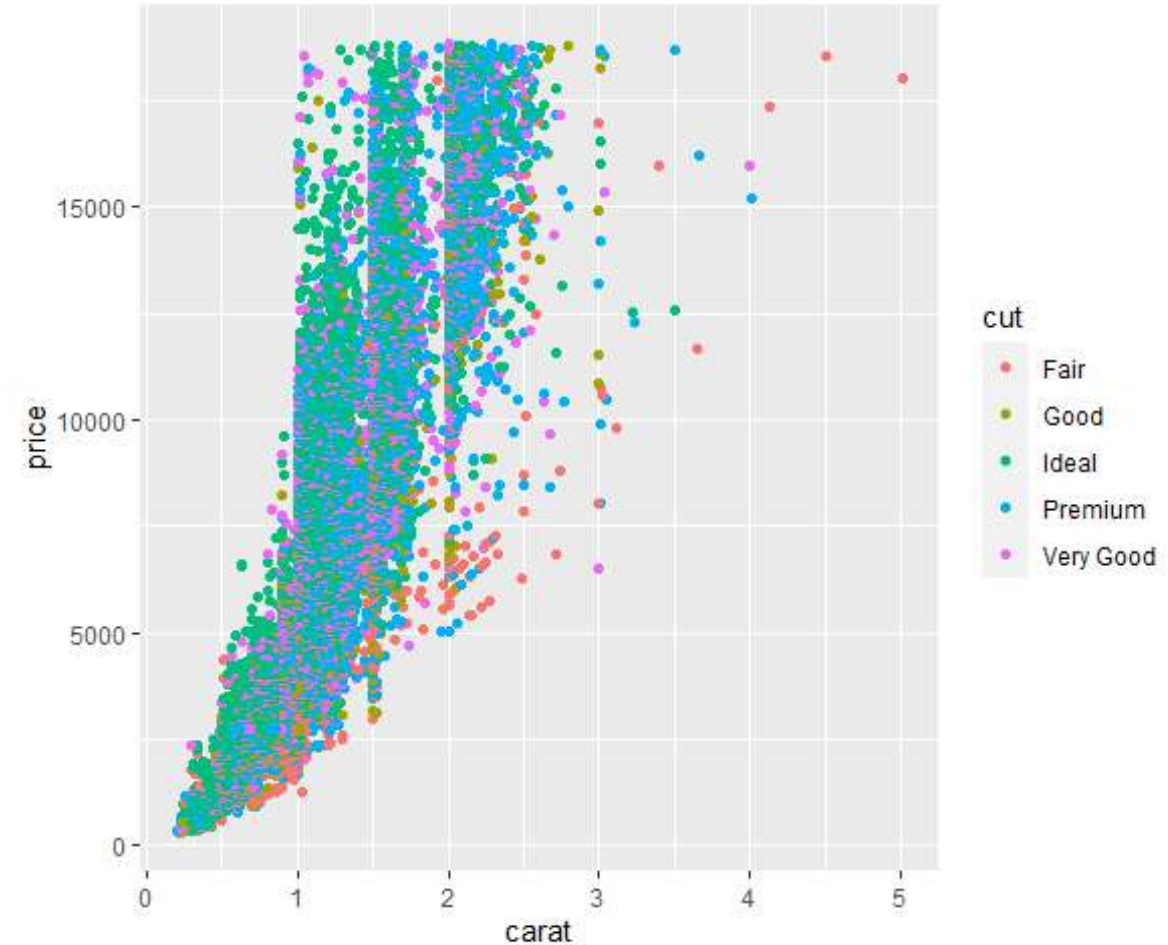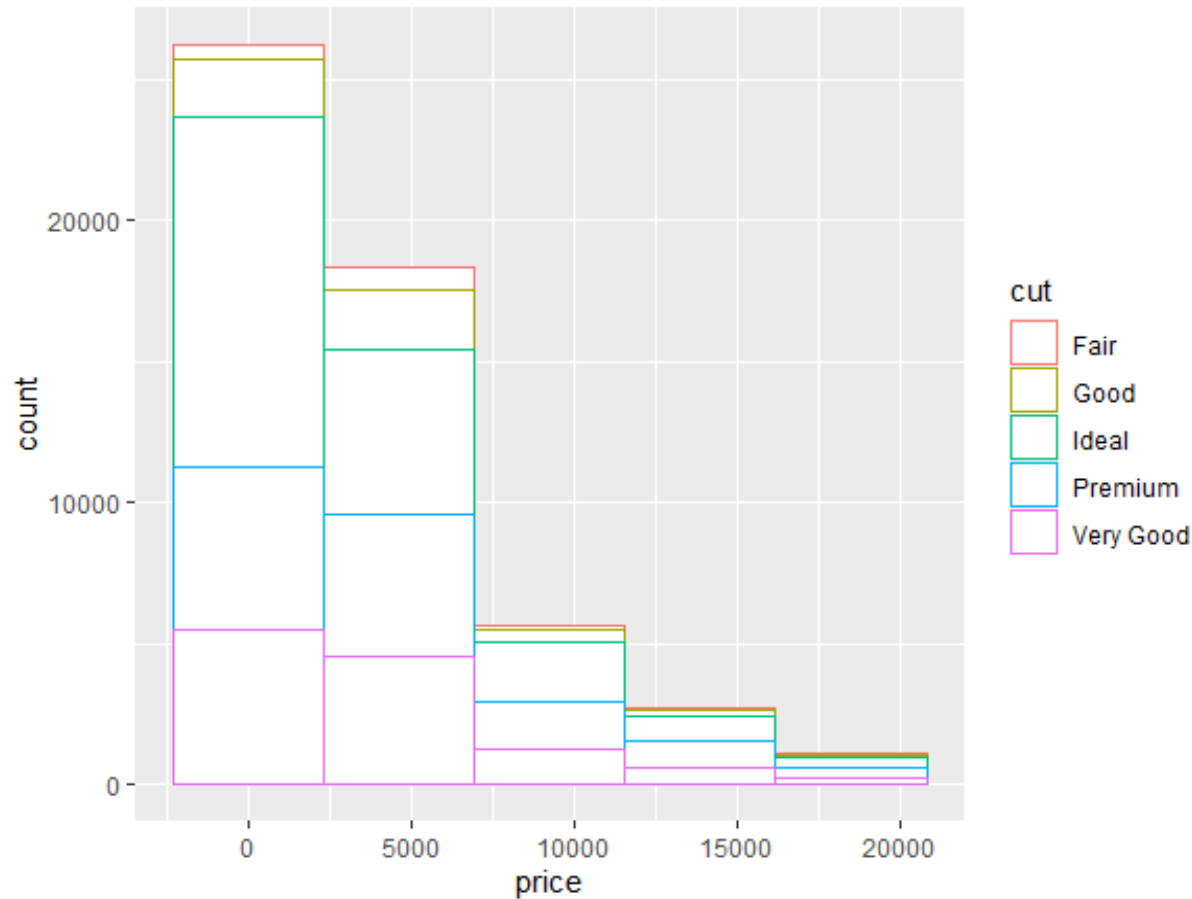
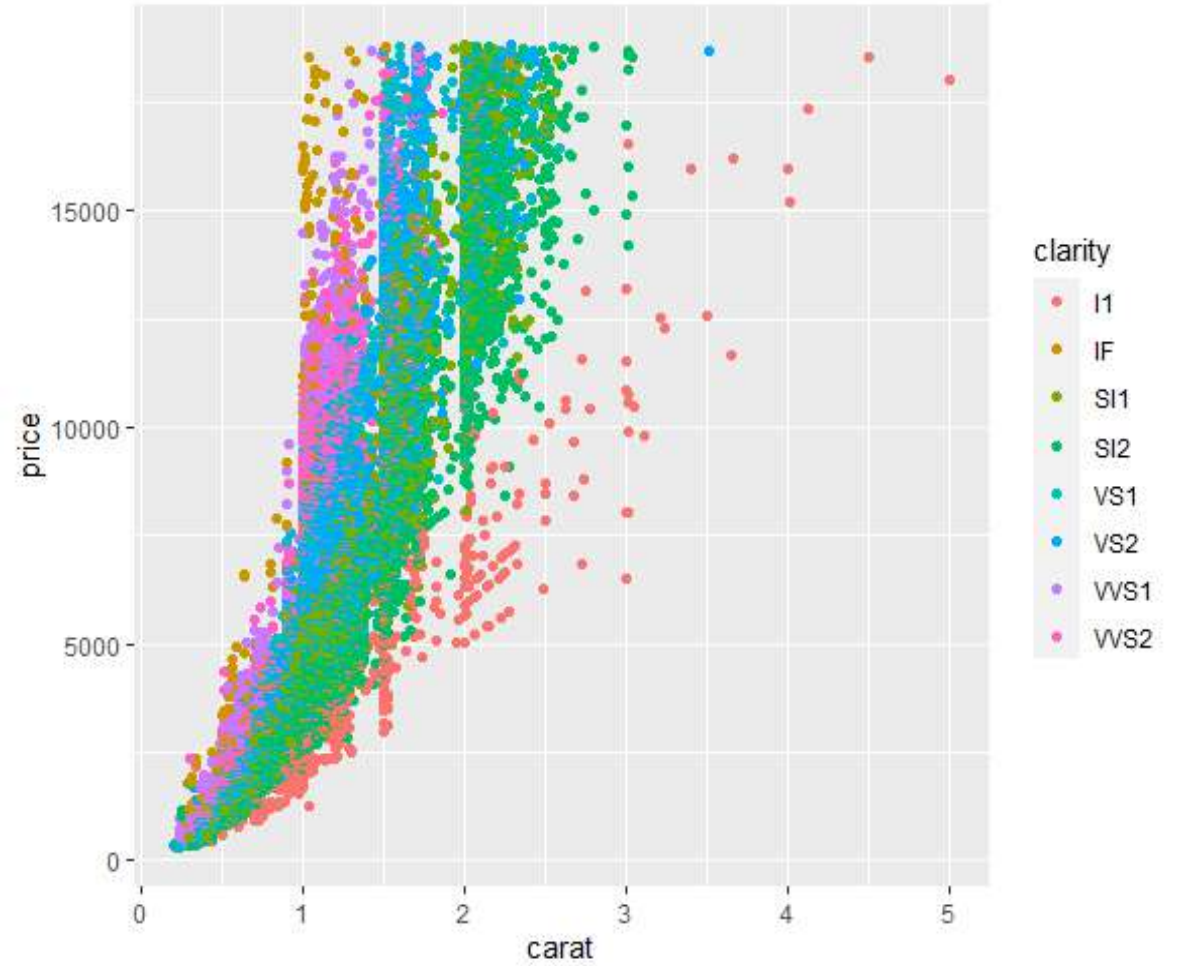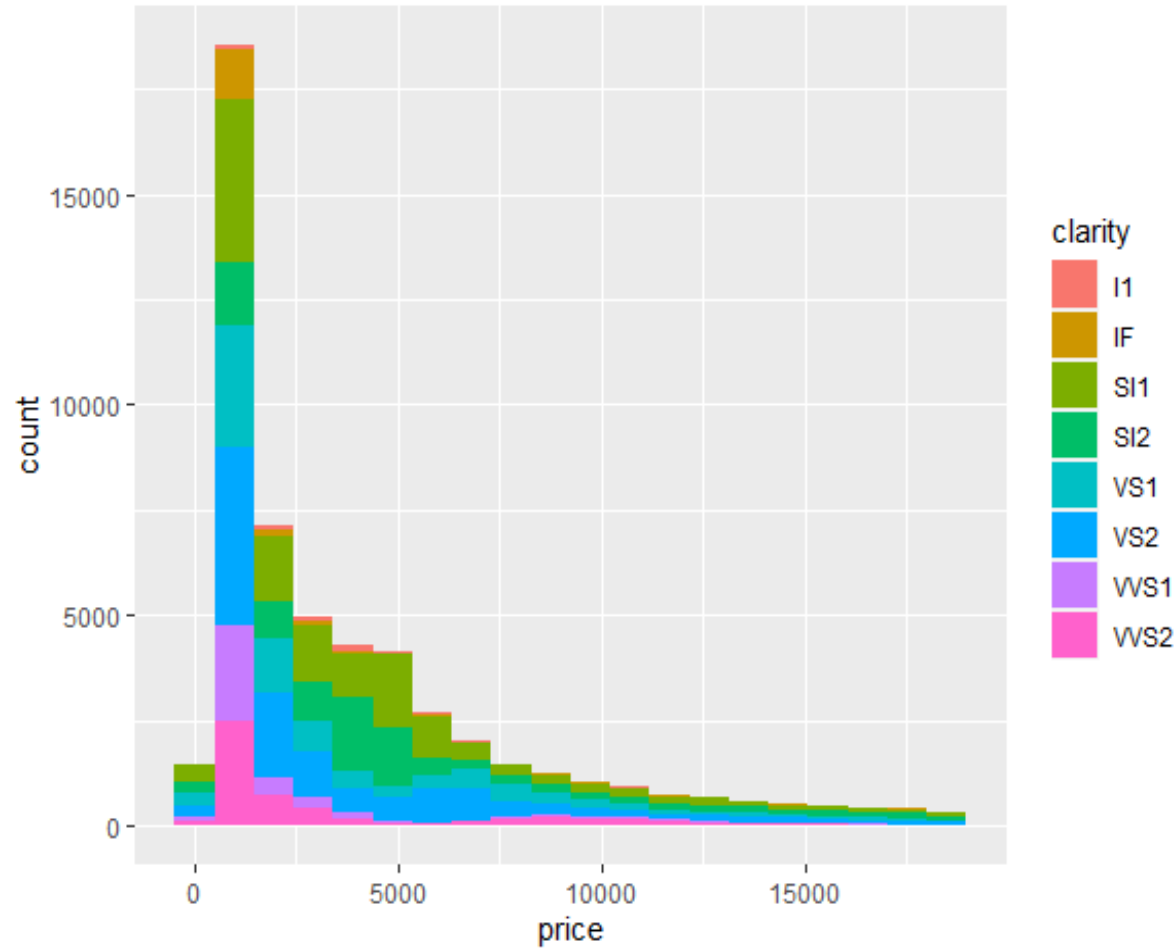**y(Width of diamond) vs Price**

z(Depth of diamond) vs Price

In these three scatter plots illustrates the price in terms of x,y,z. From these three plots we could interpret that the price of the diamond increases exponentially with all dimensions(x , y , z) . Y and z are less contributing to the price compared to x.
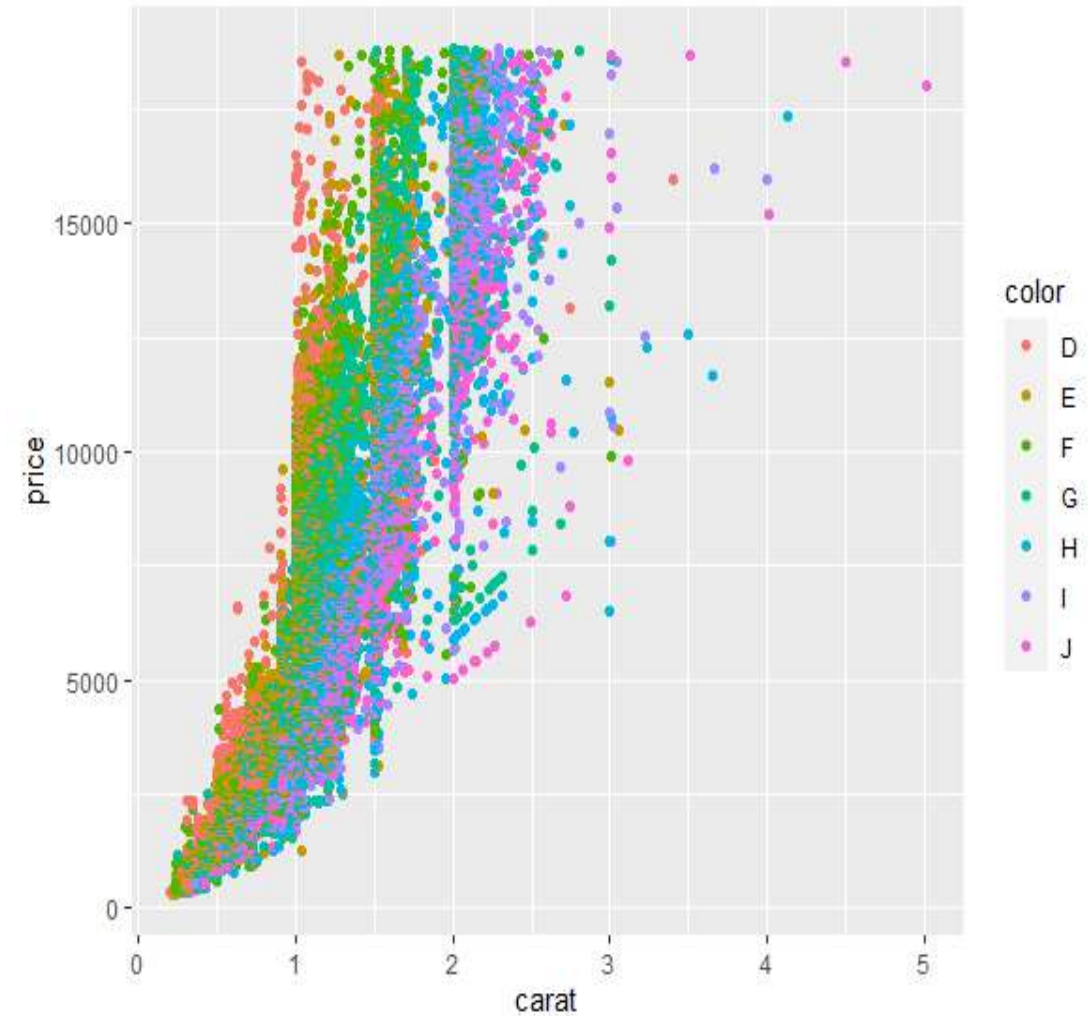
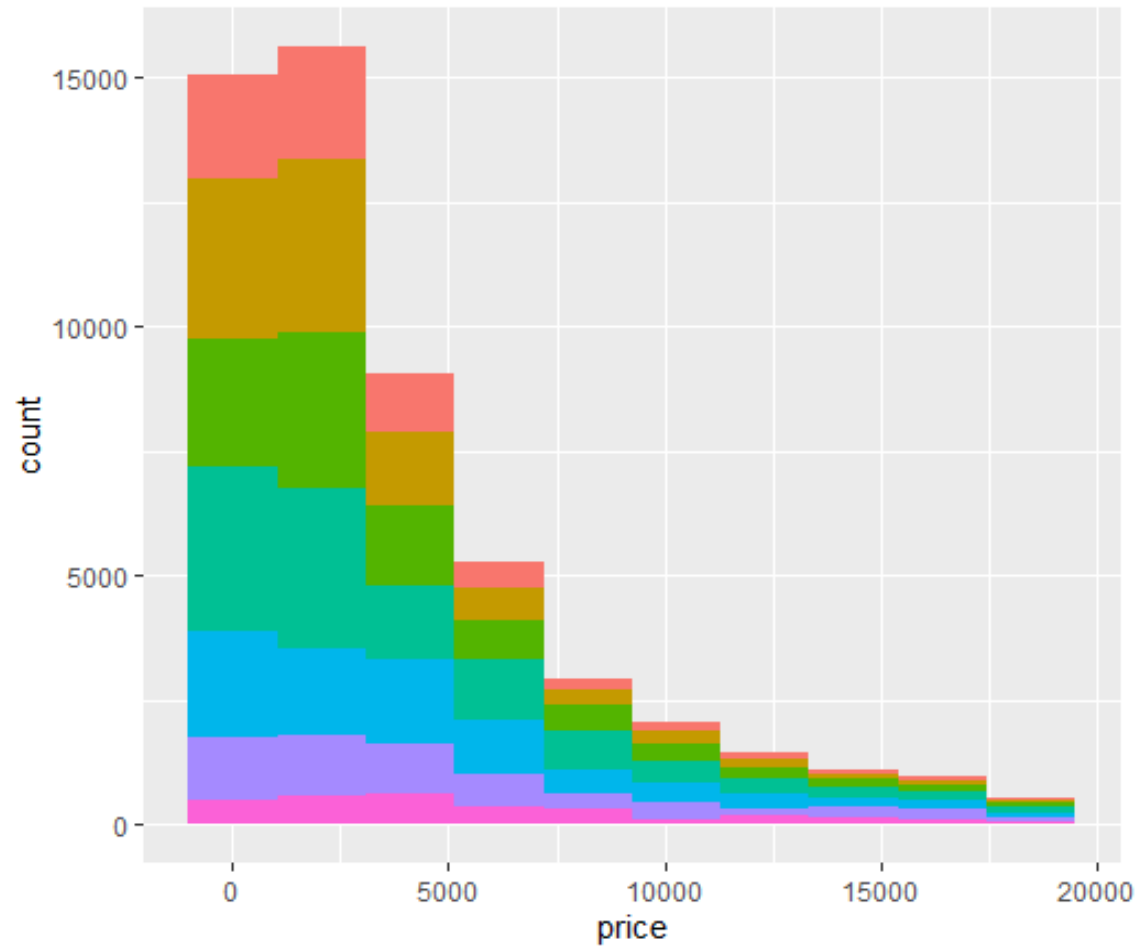Distribution of price with cutquality of diamond

- Histogram depicts the price based on cut of the diamond where each colour represents the distribution of cut of the diamond. Here fair cut with more weight are not expensive diamonds.
- Scatter plot illustrates that the diamond with higher weights tend to have lower cut rating. Ideal cut with less carat are cheapest diamond. Price depends on the cut of the diamond.

Distribution of price with clarity of diamond

The diamonds with lower clarity l1 tend to have higher weights and also have high price. Diamond with lower weights are high in clarity and price. The price is low for the best clarity IF. Price depends on the clarity of the diamond.

Distribution of price with color of diamond

The color separates the diamond based on colour. The color D with lower carat size have low price. The color J with high carat size have high price. So the price depends on the color.
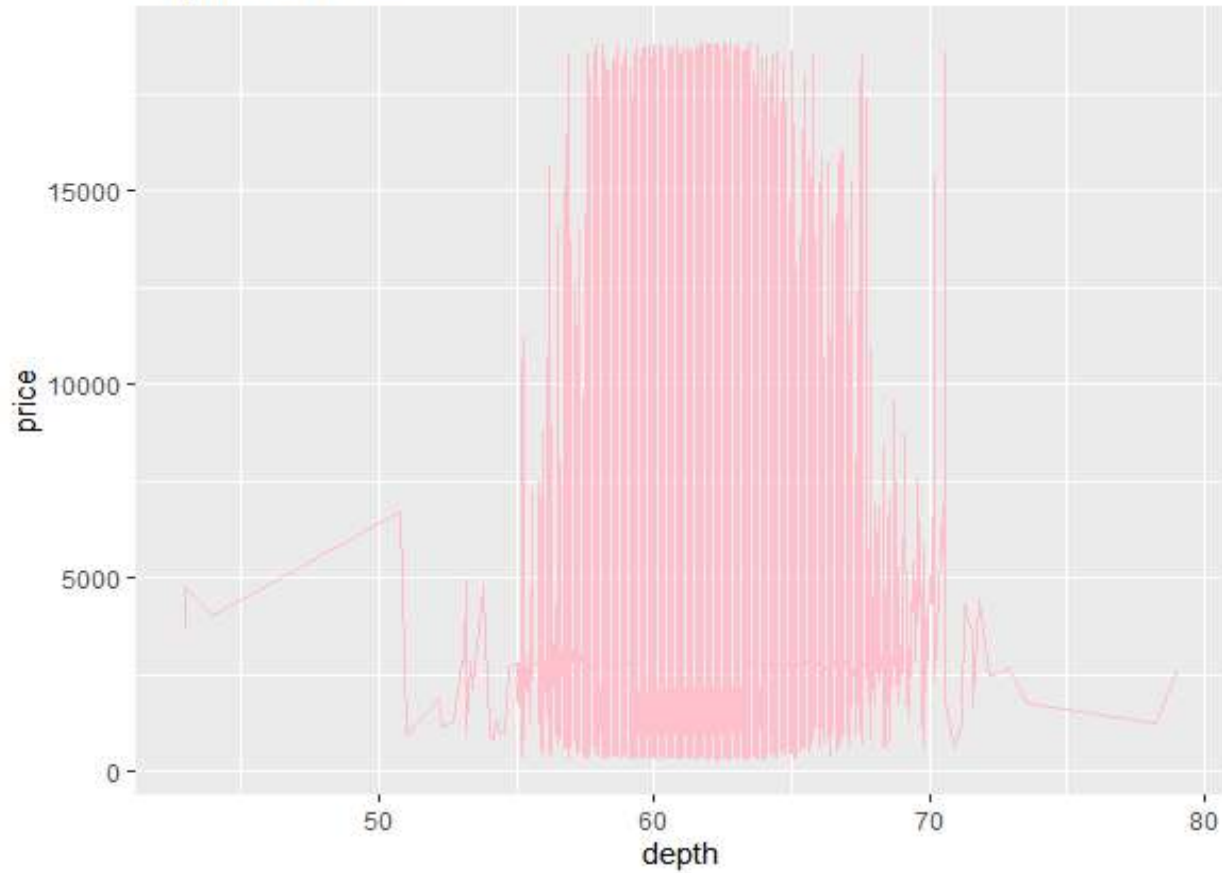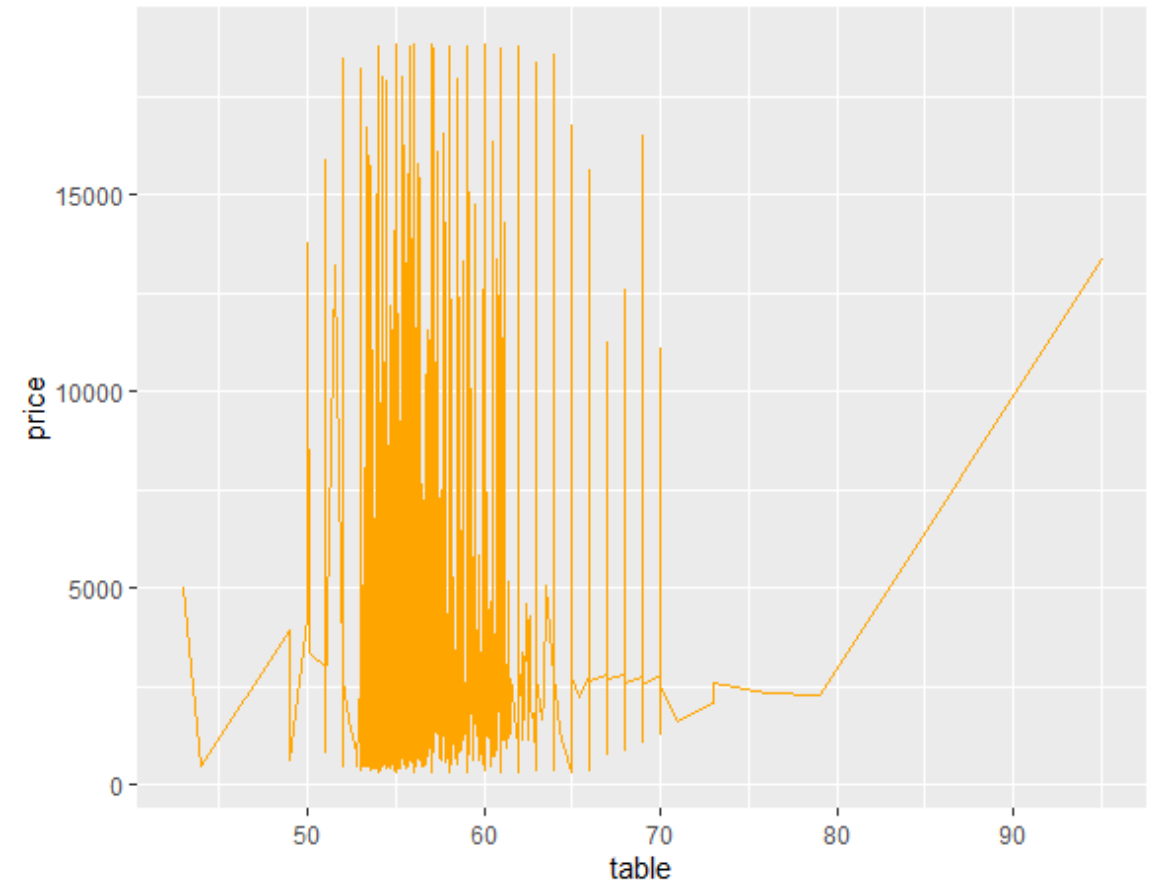
Depth vs Price

Table vs Price

There is more fluctuations in both table and depth. The table and depth has a high variation in price of the diamond.

OBSERVATIONS

- The price is highly correlated with carat. As weight increases, the price of the diamond increases.

- The price of the diamond increases exponentially with the dimensions(x, y, z).

- The price depends on cut , color and clarity.

- Depth and table are weekly correlated with price. And also there is a high variation in the price of the diamond.

- The price of the diamond determines based on carat, cut, clarity and color.