

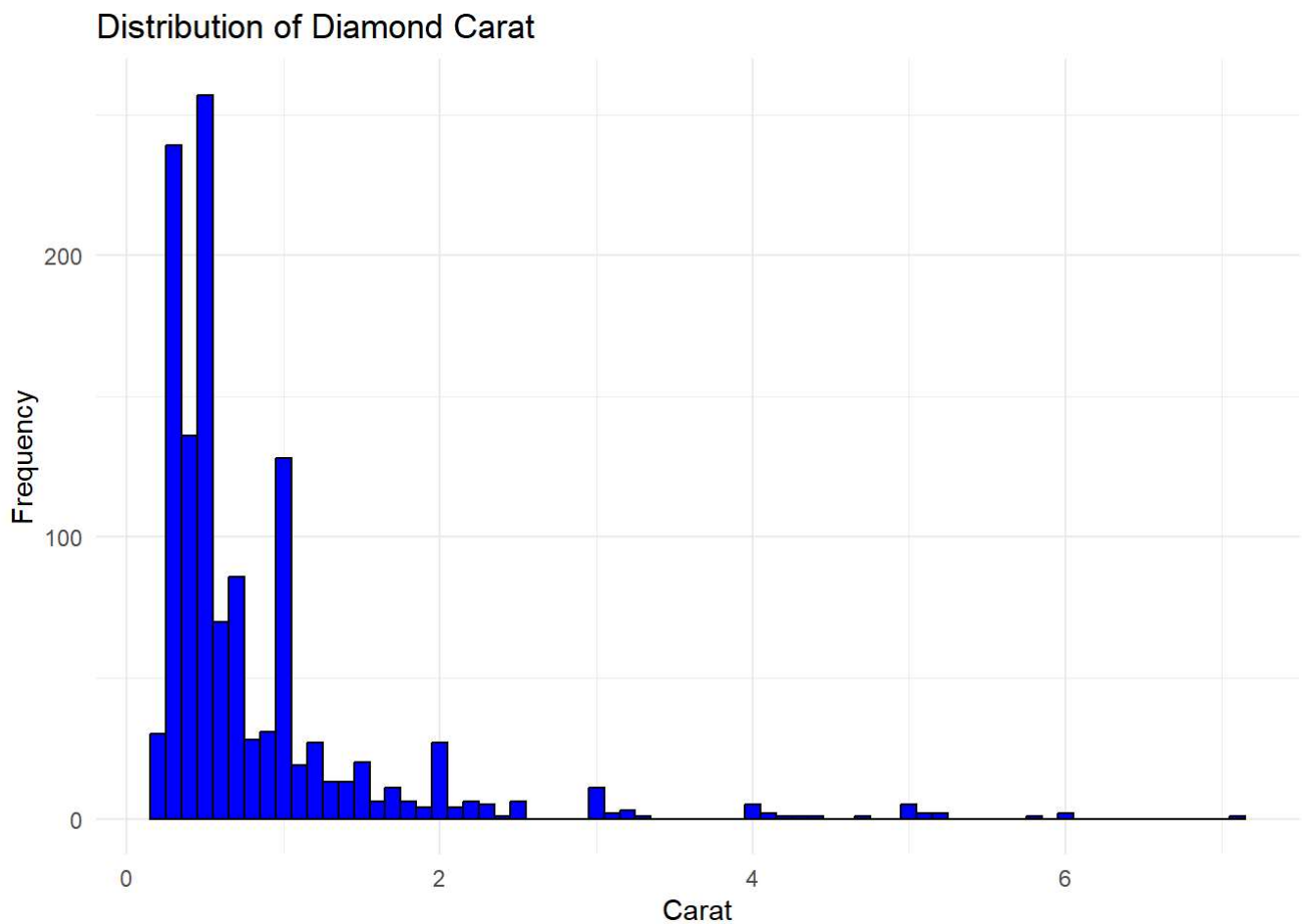
Untitled

Darreion Bailey

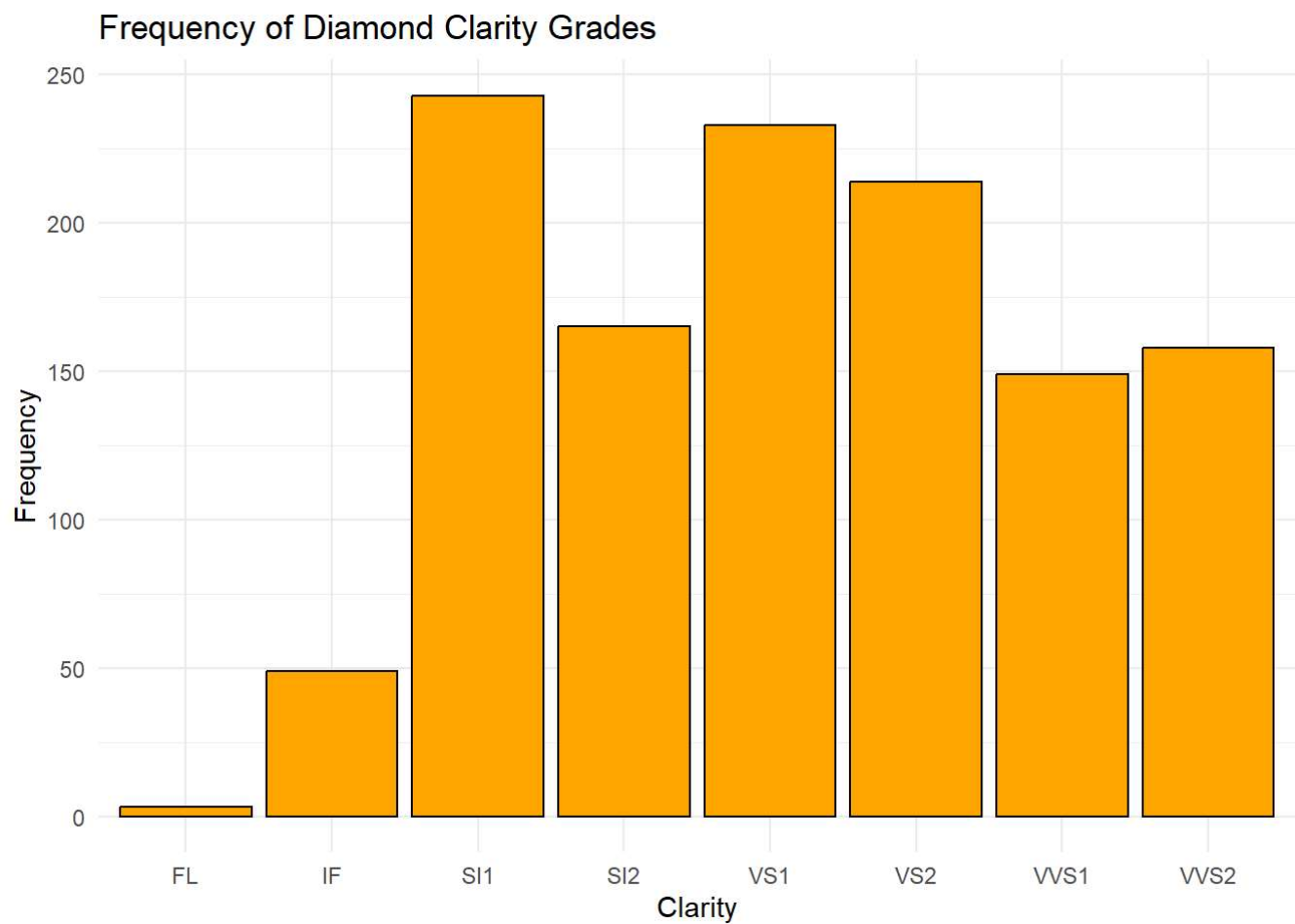
2024-03-16

Initializing distributions

```
# Create a histogram for the carat variable
ggplot(df, aes(x = carat)) +
  geom_histogram(binwidth = 0.1, fill = "blue", color = "black") +
  theme_minimal() +
  labs(title = "Distribution of Diamond Carat", x = "Carat", y = "Frequency")
```

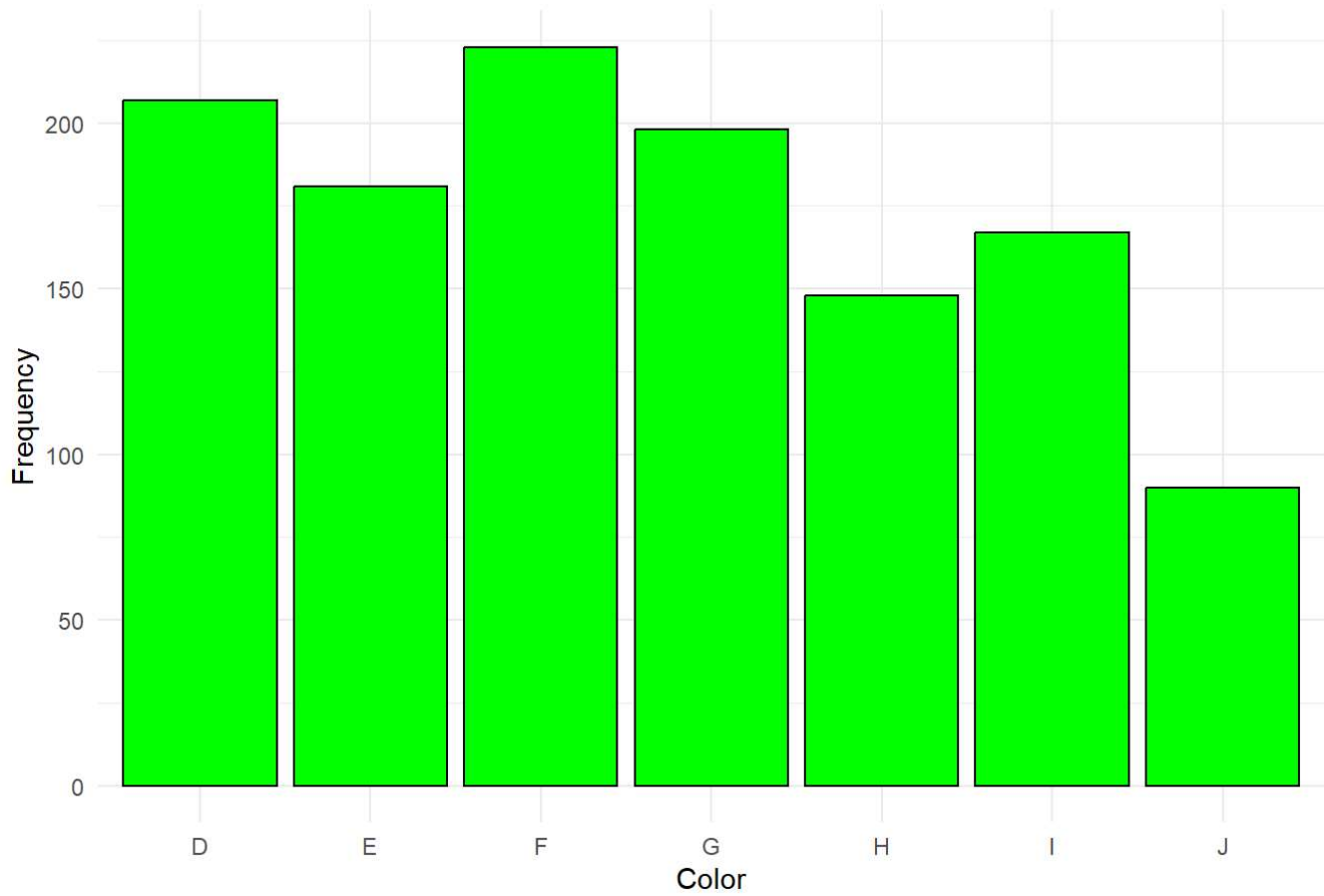


```
# Create a bar chart for the clarity variable
ggplot(df, aes(x = clarity)) +
  geom_bar(fill = "orange", color = "black") +
  theme_minimal() +
  labs(title = "Frequency of Diamond Clarity Grades", x = "Clarity", y = "Frequency")
```



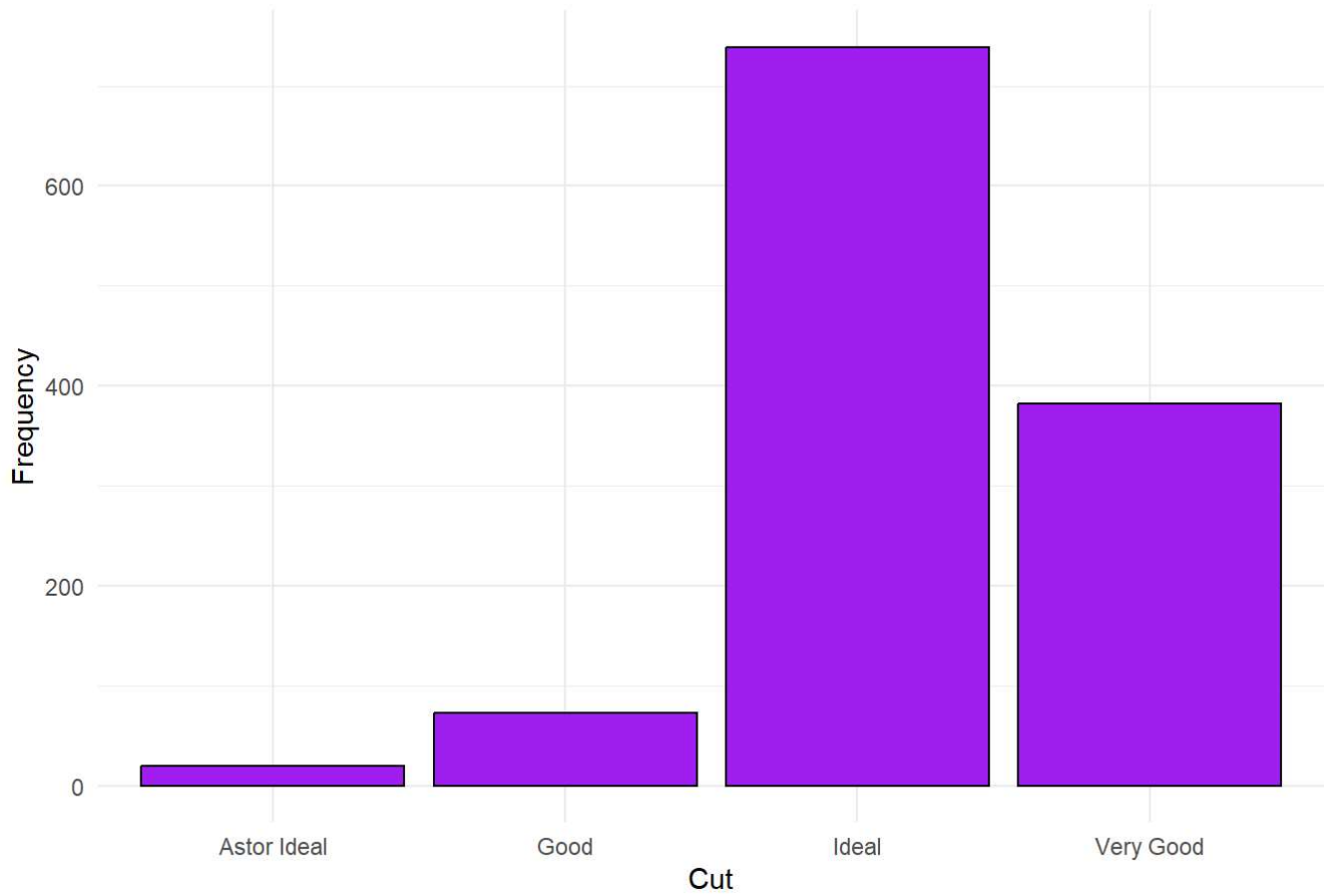
```
# Create a bar chart for the color variable
ggplot(df, aes(x = color)) +
  geom_bar(fill = "green", color = "black") +
  theme_minimal() +
  labs(title = "Frequency of Diamond Color Grades", x = "Color", y = "Frequency")
```

Frequency of Diamond Color Grades



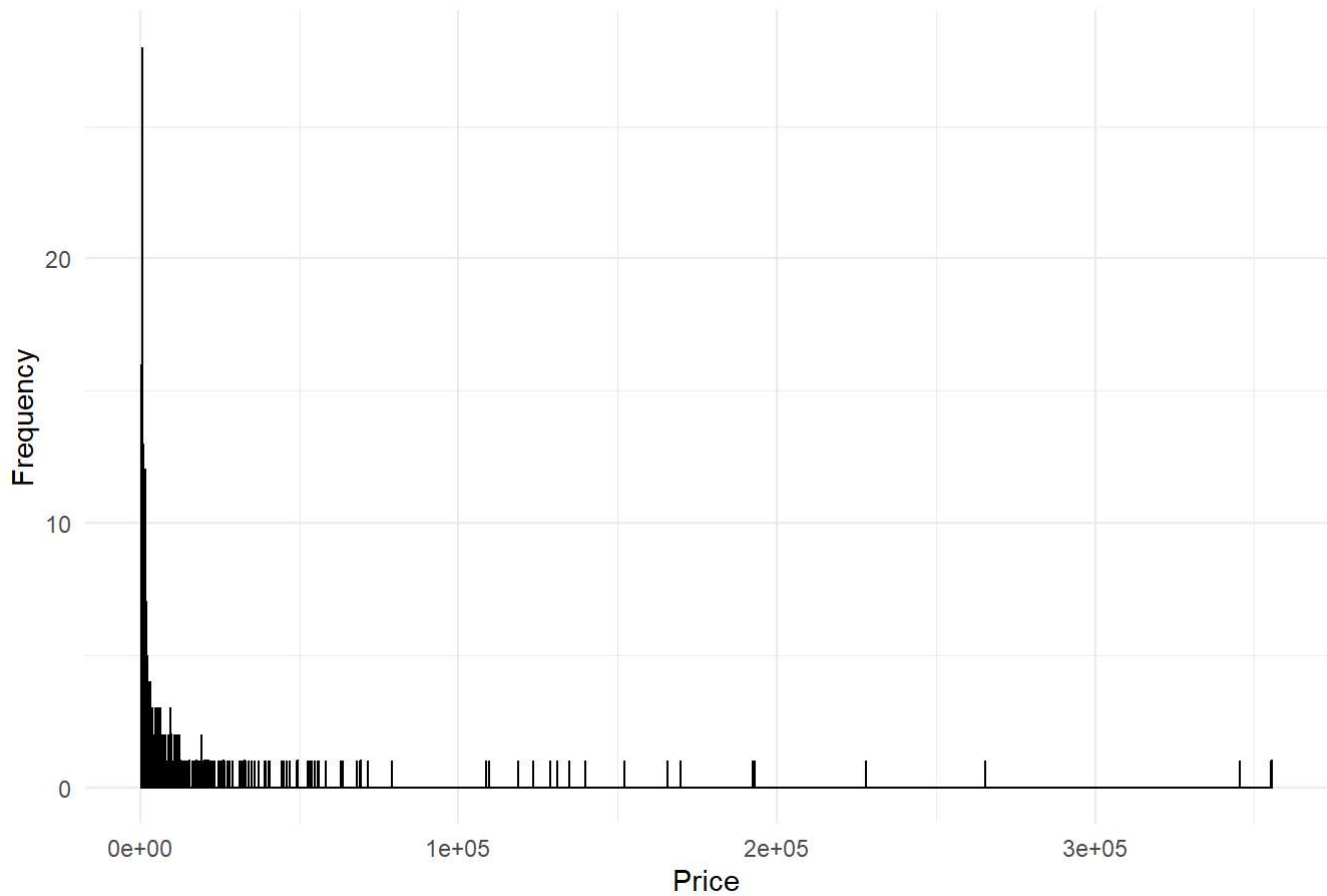
```
# Create a bar chart for the cut variable
ggplot(df, aes(x = cut)) +
  geom_bar(fill = "purple", color = "black") +
  theme_minimal() +
  labs(title = "Frequency of Diamond Cut Qualities", x = "Cut", y = "Frequency")
```

Frequency of Diamond Cut Qualities



```
# Create a histogram for the price variable  
ggplot(df, aes(x = price)) +  
  geom_histogram(binwidth = 20, fill = "red", color = "black") +  
  theme_minimal() +  
  labs(title = "Distribution of Diamond Prices", x = "Price", y = "Frequency")
```

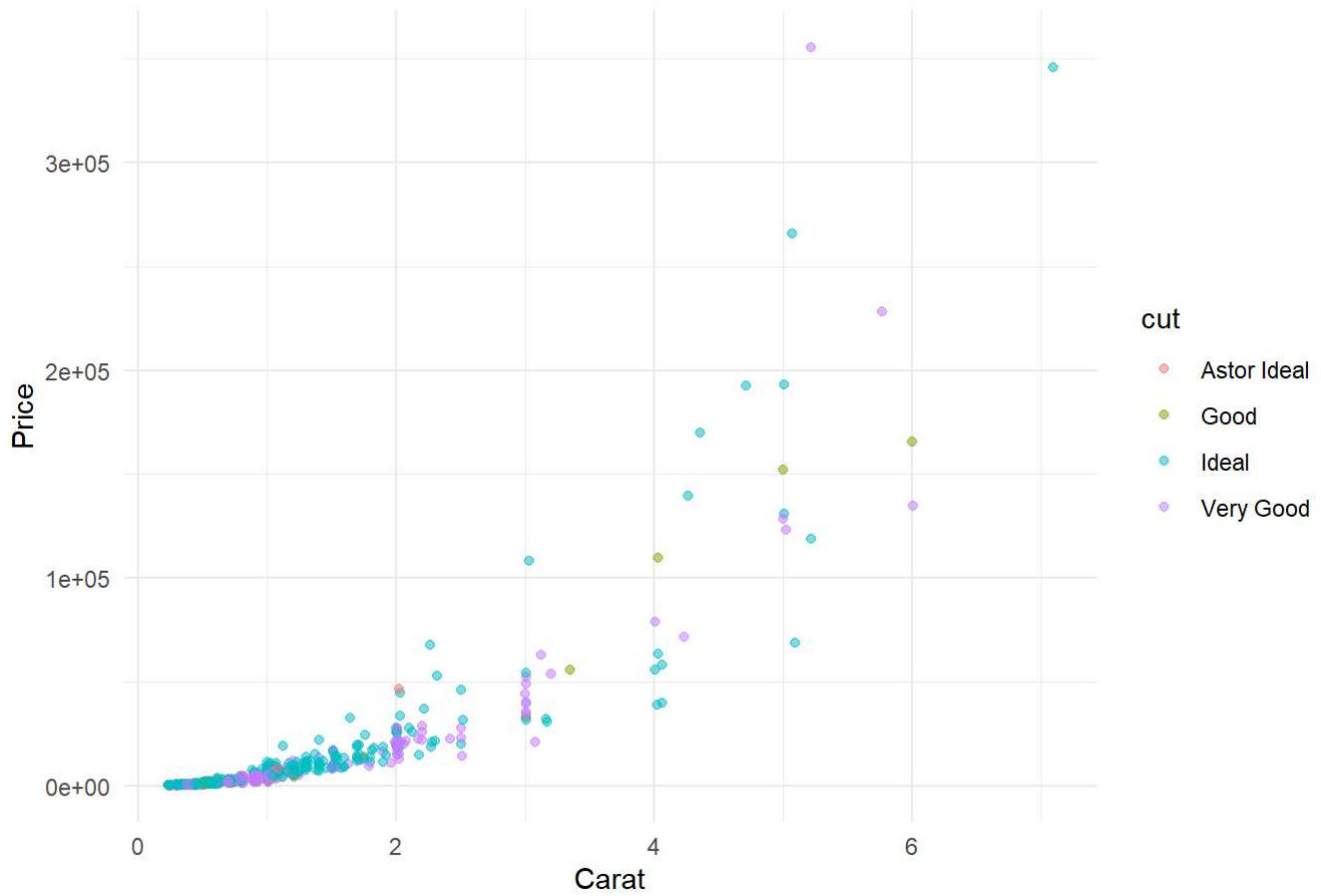
Distribution of Diamond Prices



Each variable vs. price

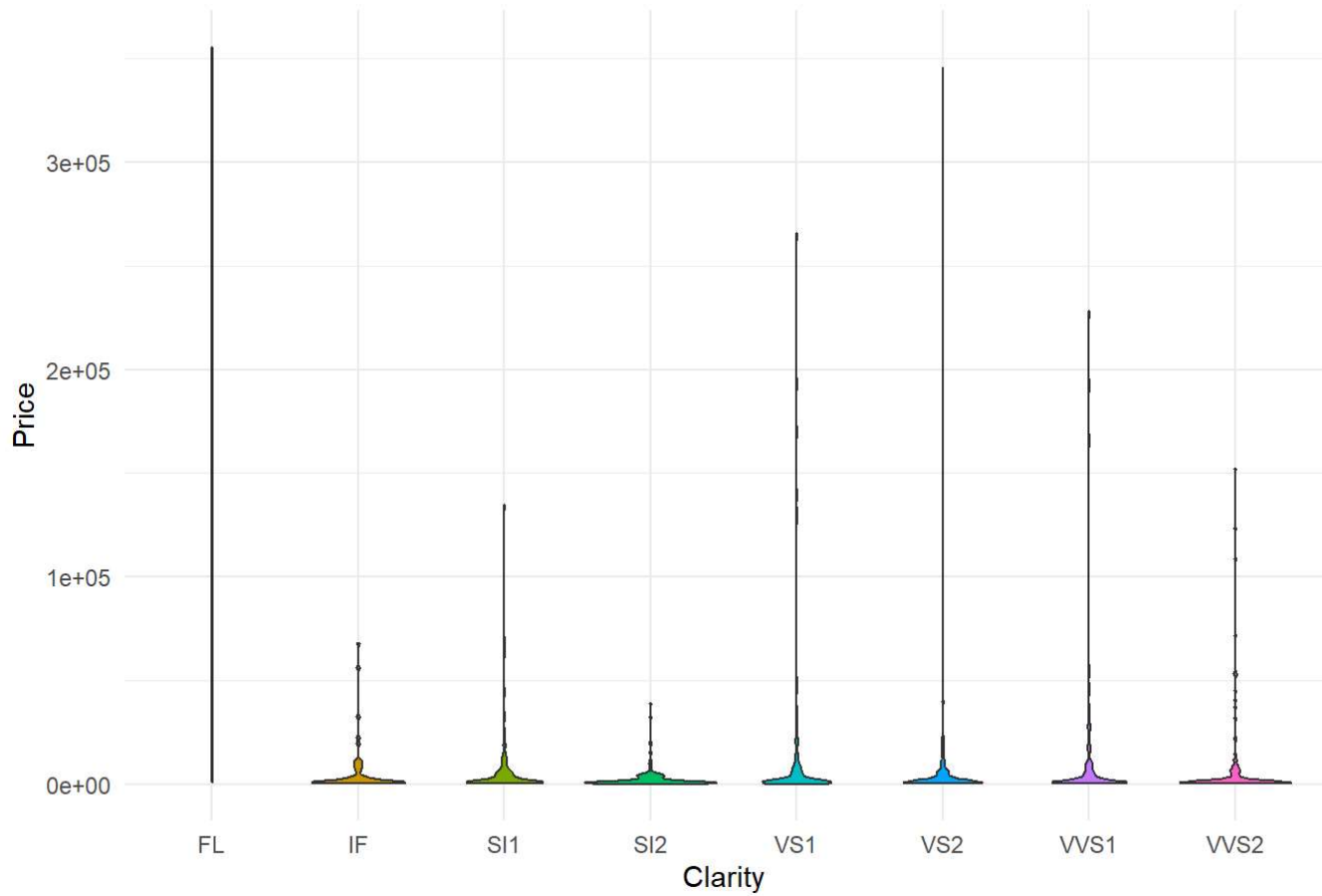
```
# Scatter plot for Carat vs. Price
ggplot(df, aes(x = carat, y = price)) +
  geom_point(aes(color = cut), alpha = 0.5) + # Color points by cut to add more context
  theme_minimal() +
  labs(title = "Carat vs. Price", x = "Carat", y = "Price")
```

Carat vs. Price



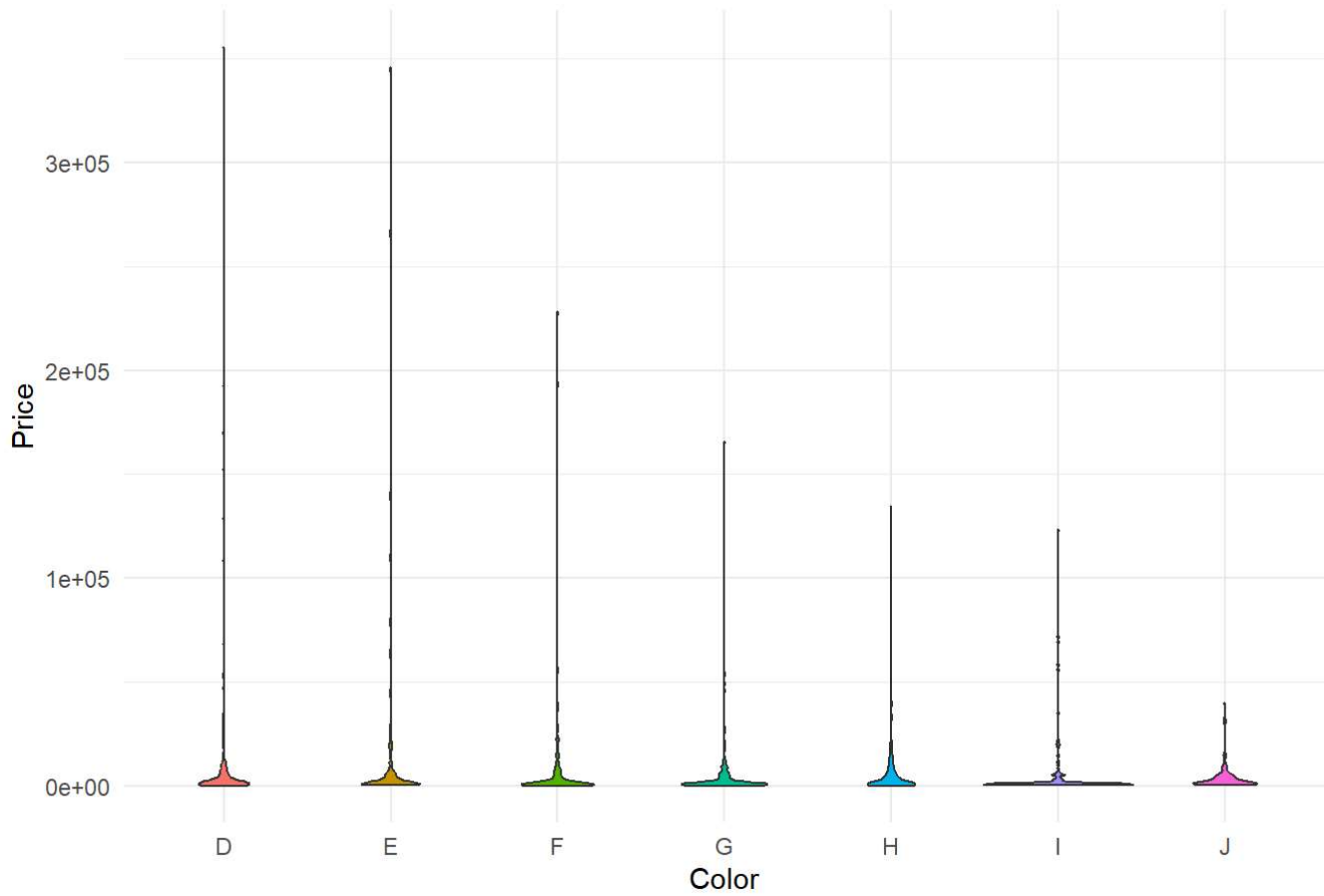
```
# Box plot for Clarity vs. Price
ggplot(df, aes(x = clarity, y = price)) +
  geom_violin(aes(fill = clarity), show.legend = FALSE) +
  theme_minimal() +
  labs(title = "Clarity vs. Price", x = "Clarity", y = "Price")
```

Clarity vs. Price



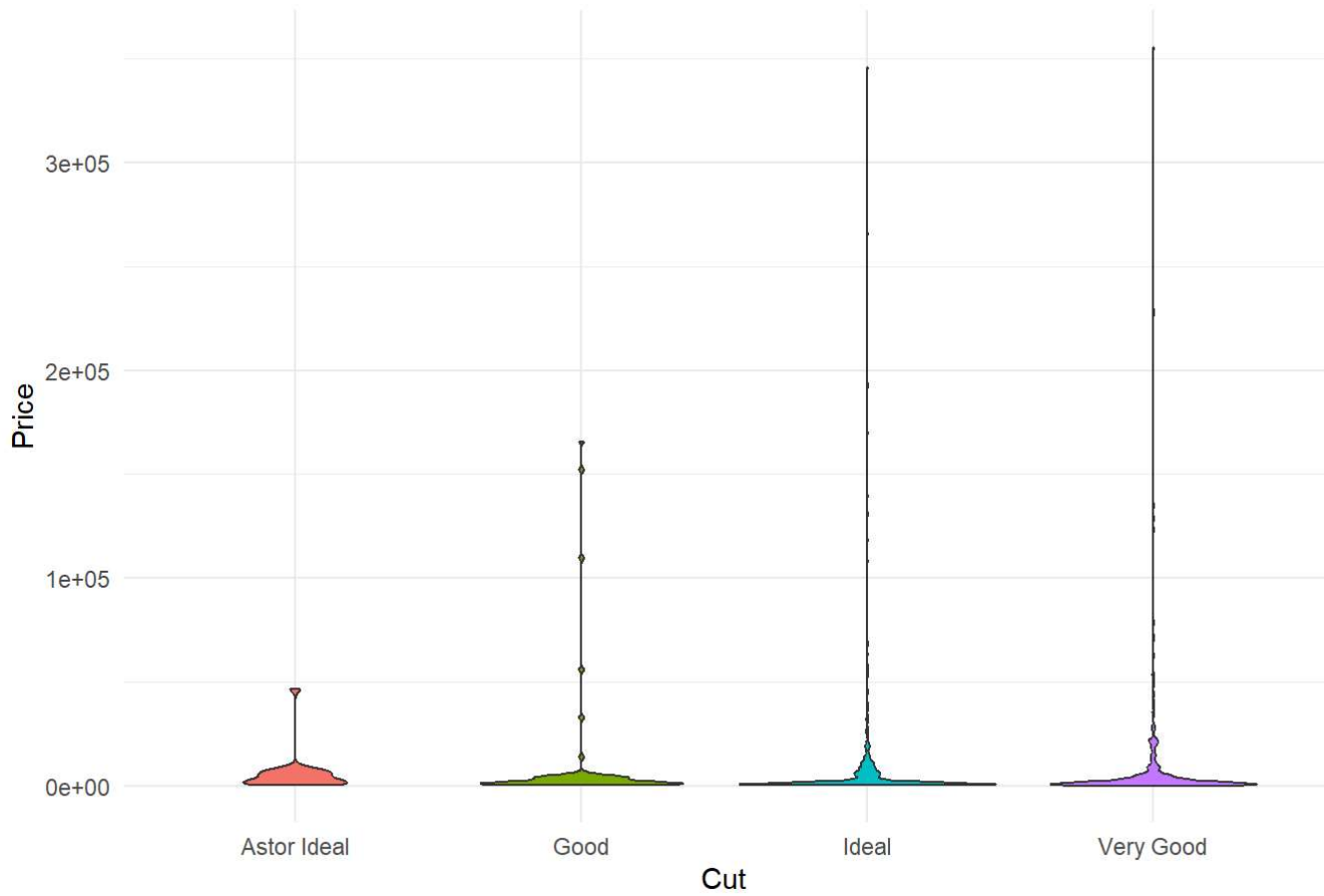
```
# Box plot for Color vs. Price
ggplot(df, aes(x = color, y = price)) +
  geom_violin(aes(fill = color), show.legend = FALSE) +
  theme_minimal() +
  labs(title = "Color vs. Price", x = "Color", y = "Price")
```

Color vs. Price



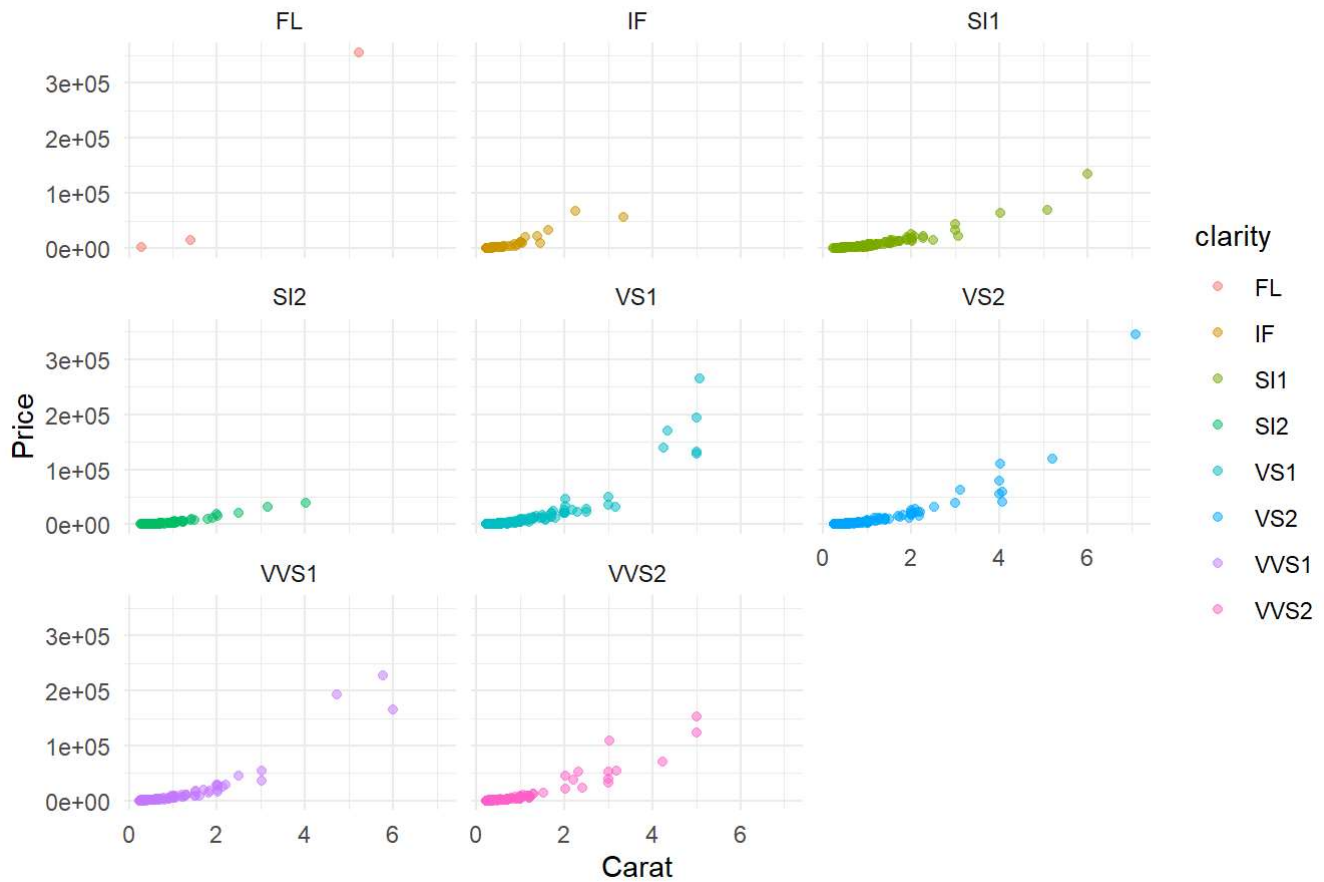
```
# Box plot for Cut vs. Price
ggplot(df, aes(x = cut, y = price)) +
  geom_violin(aes(fill = cut), show.legend = FALSE) +
  theme_minimal() +
  labs(title = "Cut vs. Price", x = "Cut", y = "Price")
```


Cut vs. Price



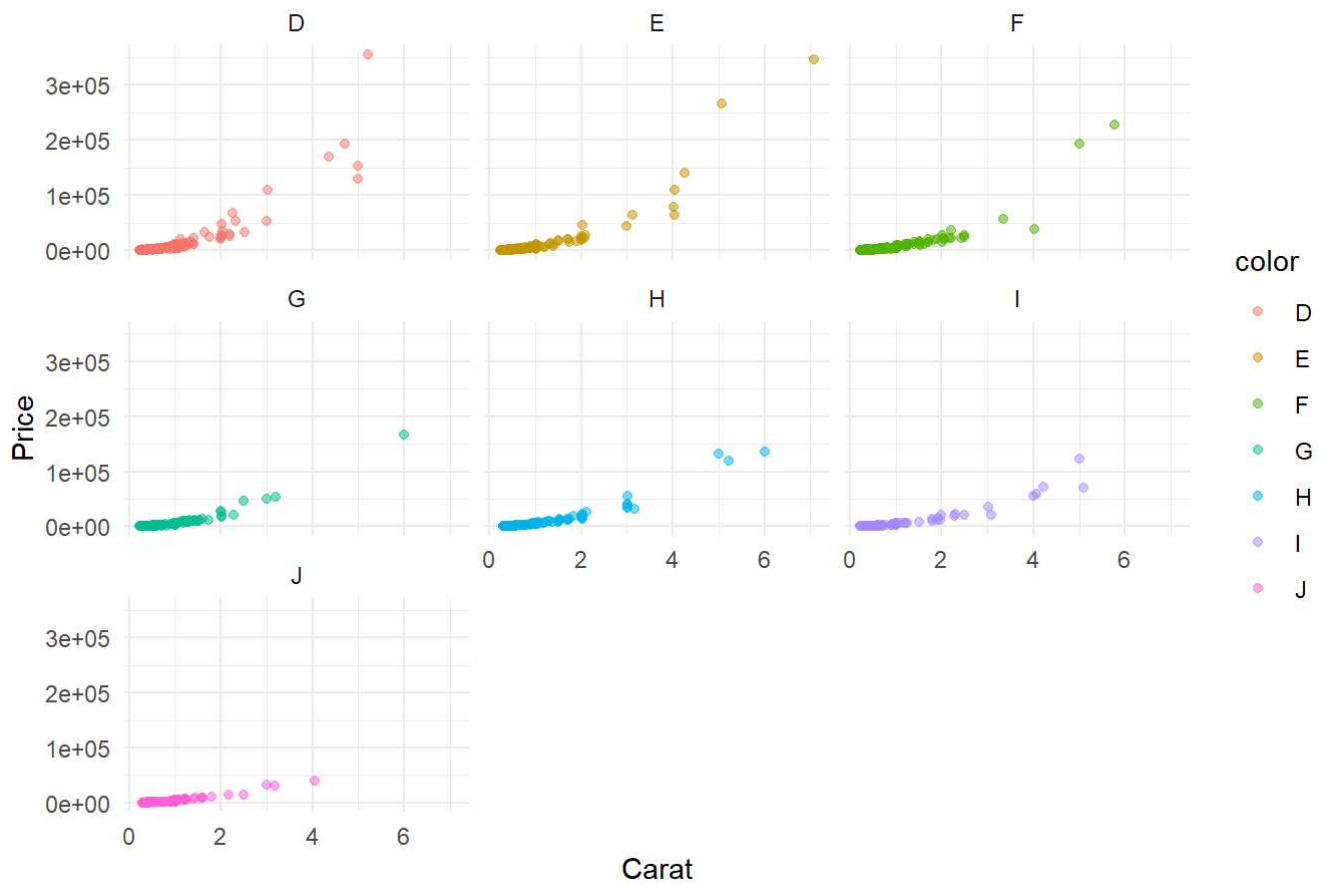
```
# Carat vs. Price by Clarity
ggplot(df, aes(x = carat, y = price)) +
  geom_point(aes(color = clarity), alpha = 0.5) +
  facet_wrap(~clarity) +
  theme_minimal() +
  labs(title = "Carat vs. Price by Clarity", x = "Carat", y = "Price")
```

Carat vs. Price by Clarity



```
# Carat vs. Price by Color
ggplot(df, aes(x = carat, y = price)) +
  geom_point(aes(color = color), alpha = 0.5) +
  facet_wrap(~color) +
  theme_minimal() +
  labs(title = "Carat vs. Price by Color", x = "Carat", y = "Price")
```

Carat vs. Price by Color



```
# Faceted Scatter Plot for Carat vs. Price by Cut
ggplot(df, aes(x = carat, y = price)) +
  geom_point(aes(color = cut), alpha = 0.5) +
  facet_wrap(~cut) +
  theme_minimal() +
  labs(title = "Carat vs. Price by Cut", x = "Carat", y = "Price")
```

Carat vs. Price by Cut

