Lab Formative Assessment 1

DSC1105 Exploratory Data Analysis

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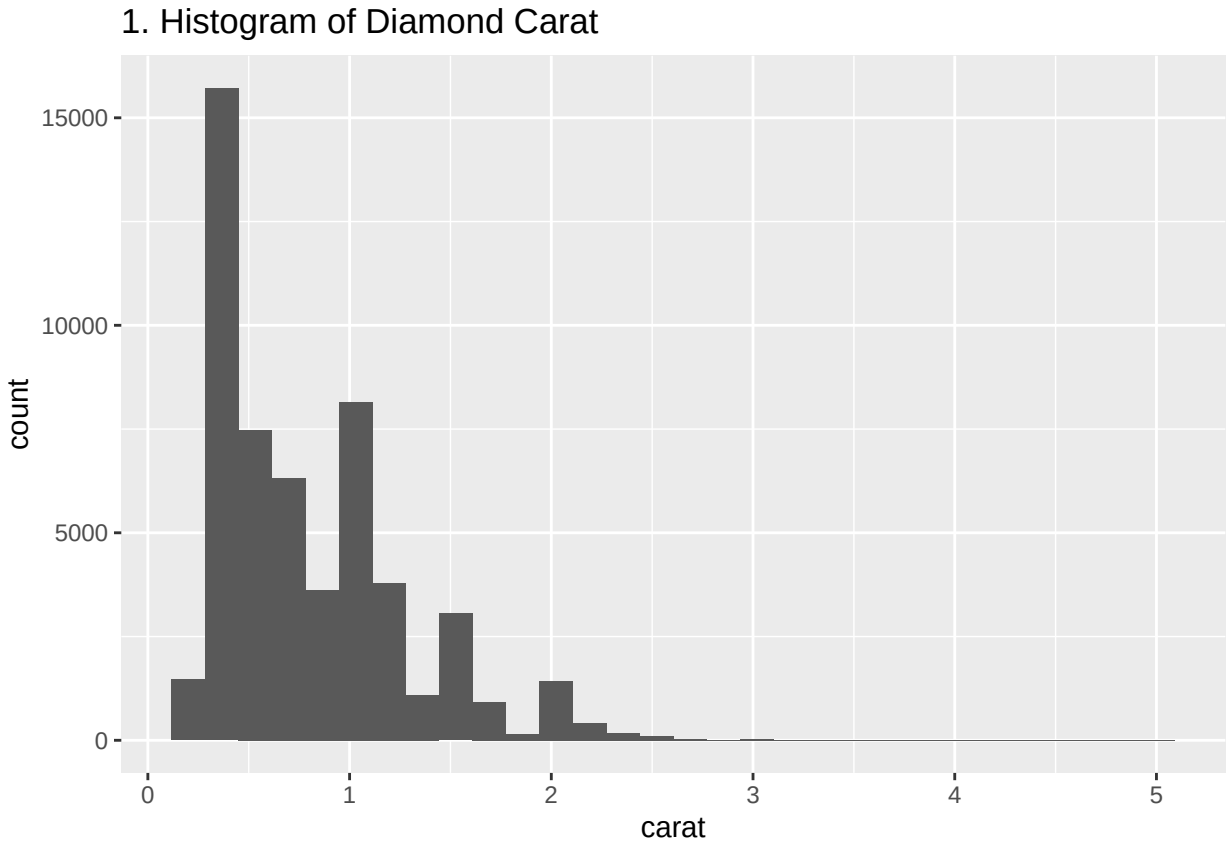
1. Create a histogram using the diamonds dataset.

Note: Re-write this plot using the layer() function instead of geom_histogram(), as demonstrated in class.

```
ggplot(diamonds) +
 layer(
     mapping = aes(x = carat),
     stat = "bin",
     geom = "bar",
     position = "stack"
 ) +
ggtitle("1. Histogram of Diamond Carat")
```

```
## `stat_bin()` using `bins = 30`. Pick better value `binwidth`.
```

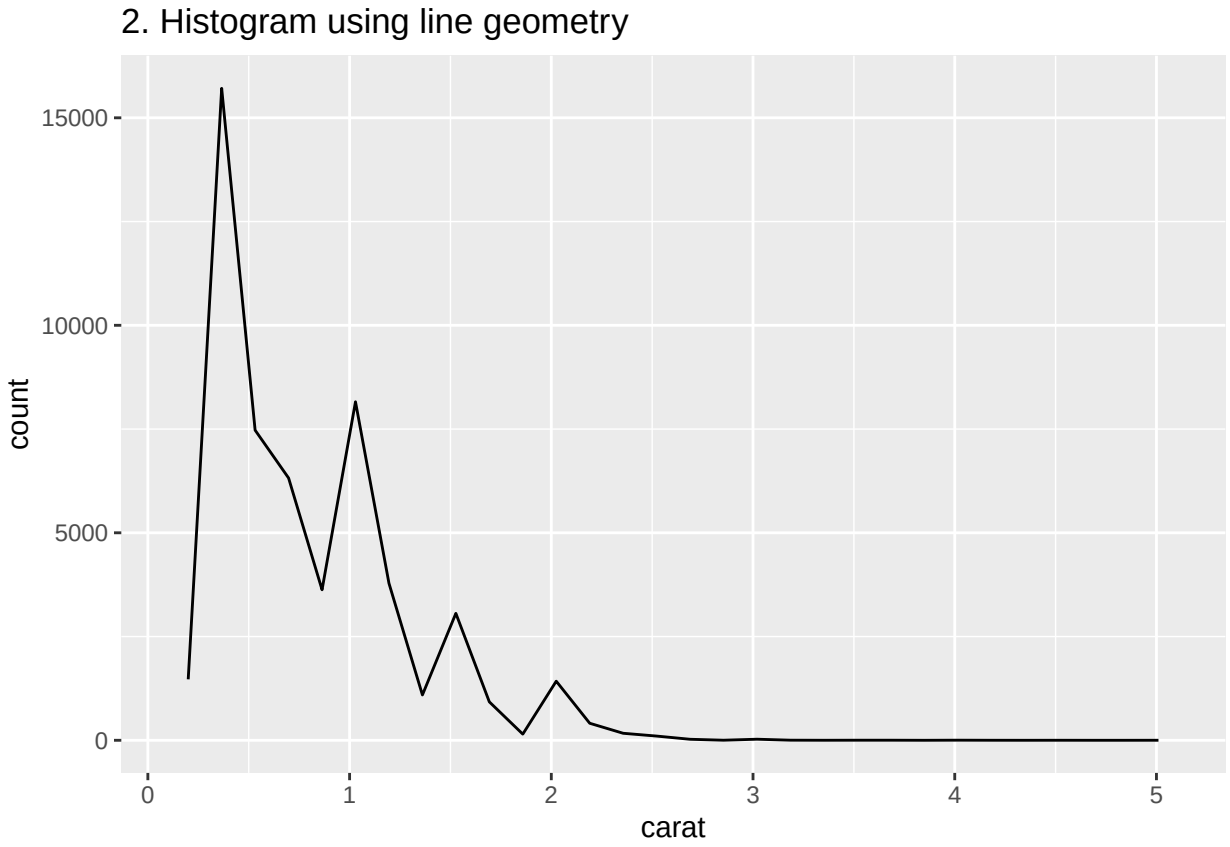


2. Recall that a histogram is a plot that uses stat_bin rather than stat_identity.

Note: Modify your histogram from Question 1 so that it uses a different geom, such as geom_line() or geom_point(), while still relying on stat_bin.

```
ggplot(diamonds) +
 layer(
     mapping = aes(x = carat),
     stat = "bin",
     geom = "line",
     position = "identity"
 ) +
ggtitle("2. Histogram using line geometry")
```

```
## `stat_bin()` using `bins = 30`. Pick better value `binwidth`.
```

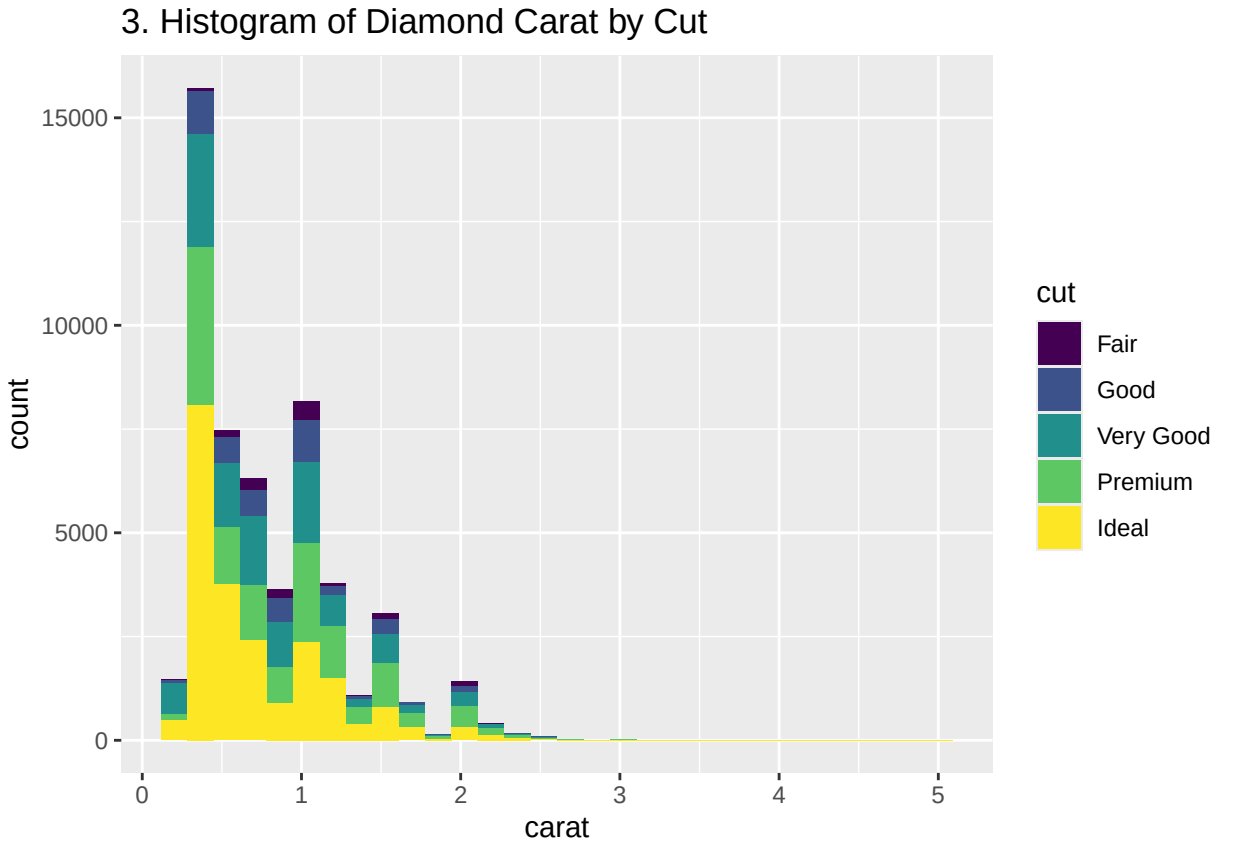


3. Using the histogram with bars from Question 1, add an aesthetic mapping based on one of the factor variables in the dataset (e.g., cut, color, or clarity).

Note: Apply this mapping to either the fill or color aesthetic.

```
ggplot(diamonds) +
 layer(
     mapping = aes(x = carat, fill = cut),
     stat = "bin",
     geom = "bar",
     position = "stack"
 ) +
ggtitle("3. Histogram of Diamond Carat by Cut")
```

```
## `stat_bin()` using `bins = 30`. Pick better value `binwidth`.
```



4. What is the default position adjustment used in a histogram?

Note: Change the position adjustment in the histogram you created in Question 3 to a different option (hint: try dodge), and observe how the plot changes.

```
ggplot(diamonds) +
 layer(
     mapping = aes(x = carat, fill = cut),
     stat = "bin",
     geom = "bar",
     position = "dodge"
 ) +
ggtitle("4. Histogram of Diamond Carat by Cut using (dodge)")
```

```
## `stat_bin()` using `bins = 30`. Pick better value `binwidth`.
```

4. Histogram of Diamond Carat by Cut using (dodge)