DSC_1105_FA3

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Read & Show Data

```
library(ggplot2)
head(diamonds)
```

```
## # A tibble: 6 × 10
##   carat cut       color clarity depth table price     x     y     z
##   <dbl> <ord>     <ord> <ord>   <dbl> <dbl> <int> <dbl> <dbl> <dbl>
## 1  0.23 Ideal     E     SI2      61.5    55   326  3.95  3.98  2.43
## 2  0.21 Premium   E     SI1      59.8    61   326  3.89  3.84  2.31
## 3  0.23 Good      E     VS1      56.9    65   327  4.05  4.07  2.31
## 4  0.29 Premium   I     VS2      62.4    58   334  4.2   4.23  2.63
## 5  0.31 Good      J     SI2      63.3    58   335  4.34  4.35  2.75
## 6  0.24 Very Good J     VVS2     62.8    57   336  3.94  3.96  2.48
```

```
View(diamonds)
```

PLOTTING

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1

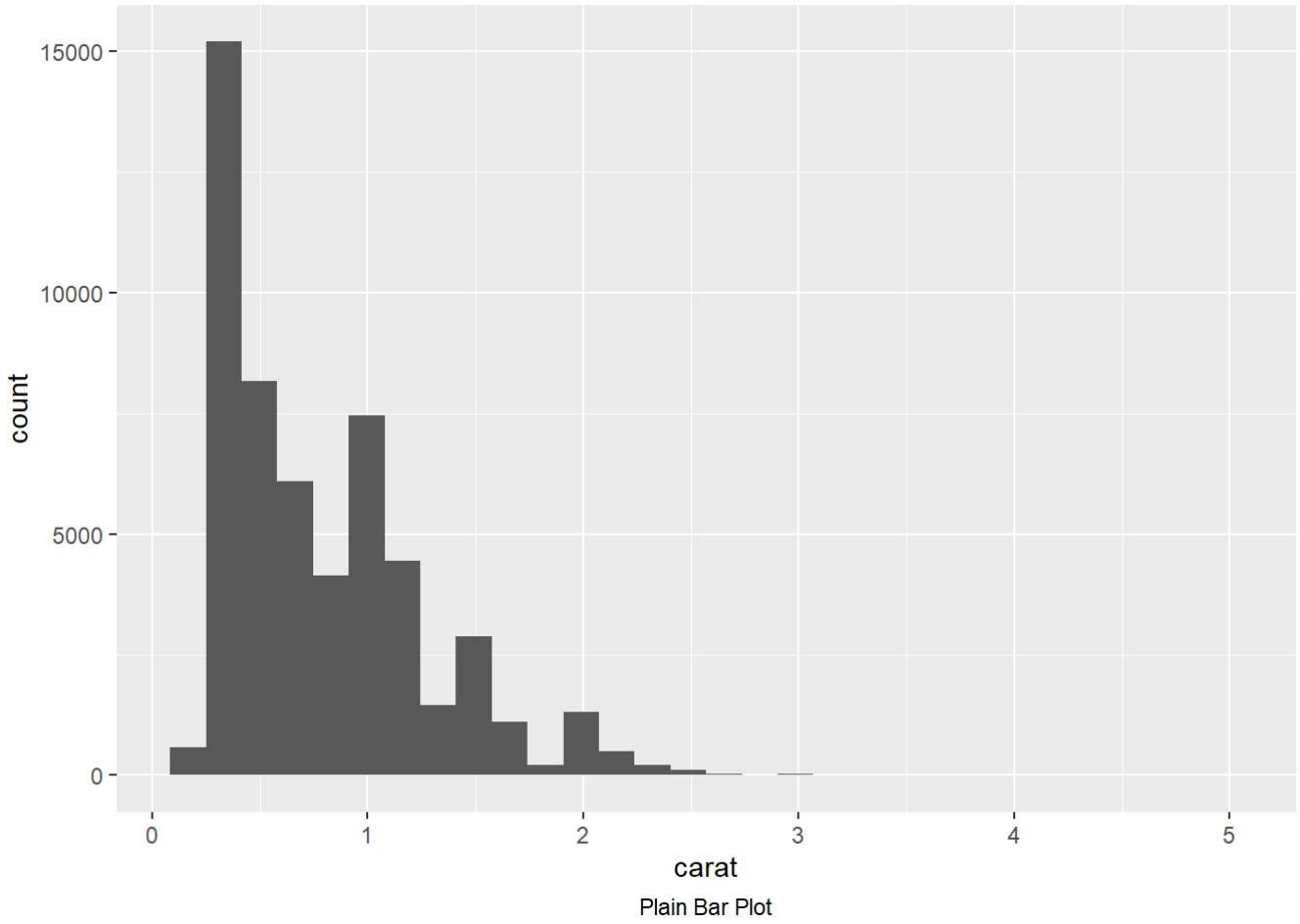
Create a histogram on the diamonds dataset, for example with

ggplot() + geom_histogram(aes(x = carat), data = diamonds)

```
library(ggplot2)
mainplot <- ggplot(data = diamonds, mapping = aes(x = carat))
mainplot_bar_bin <- mainplot + layer(
  geom = "bar",
  stat = "bin",
  position = "identity",
  mapping = aes(y = ..count..)
)+labs(caption = "Plain Bar Plot")+
  theme(plot.caption = element_text(hjust = 0.5))
print(mainplot_bar_bin)
```

```
## Warning: The dot-dot notation (`..count..`) was deprecated in ggplot2 3.4.0.
## ℹ Please use `after_stat(count)` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

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



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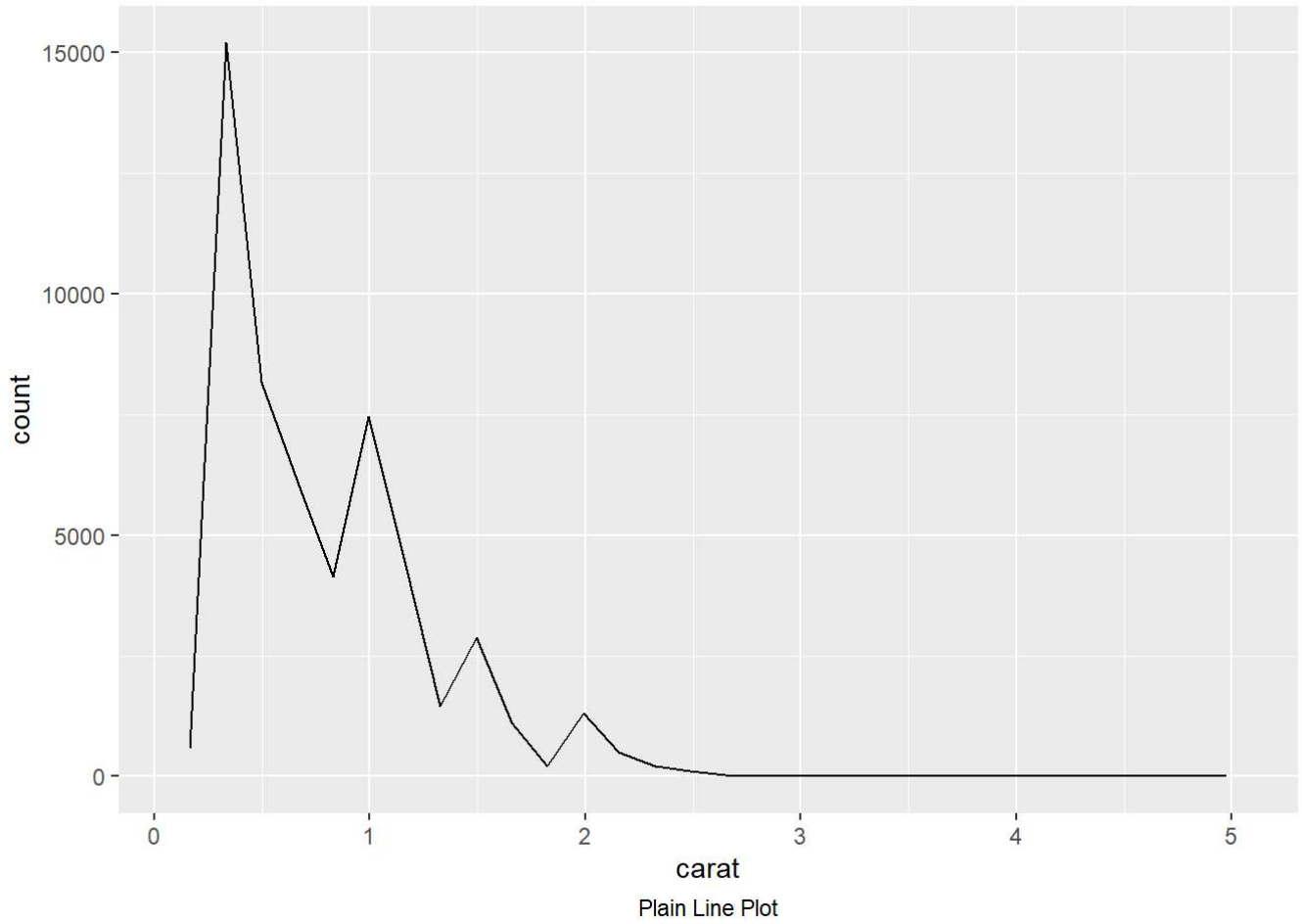
2

Remember that a histogram is a plot with stat_bin and geom_bar. Modify your histogram code so that it uses a different geom, for example geom_line or geom_point. This should be simple once you have the layer specification of a histogram.

line

```
library(ggplot2)
mainplot <- ggplot(data = diamonds, mapping = aes(x = carat))
mainplot_line_bin <- mainplot + layer(
  geom = "line",
  stat = "bin",
  position = "identity",
  mapping = aes(y = ..count..))+
  labs(caption = "Plain Line Plot")+
  theme(plot.caption = element_text(hjust = 0.5))
print(mainplot_line_bin)
```

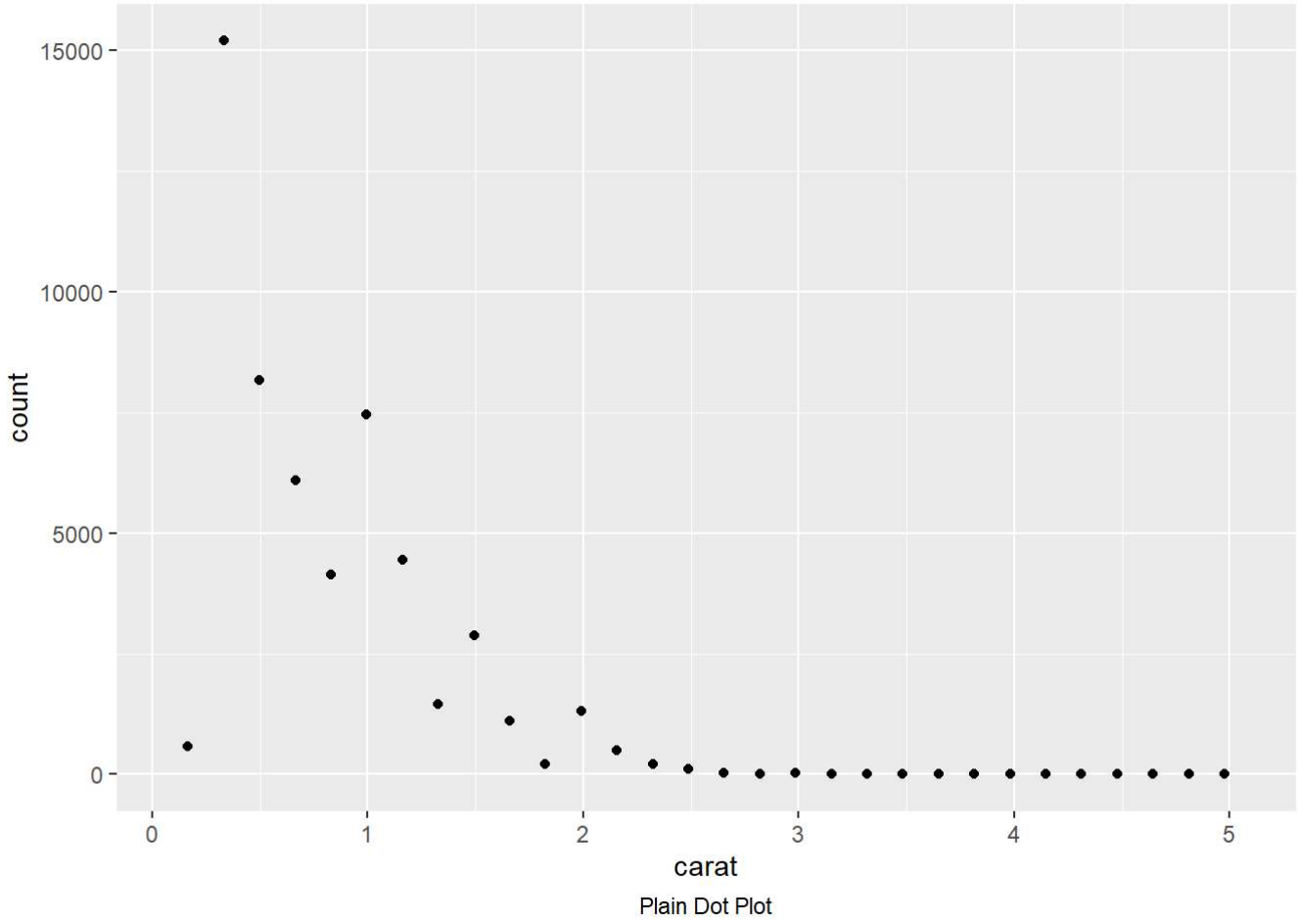
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



point

```
library(ggplot2)
mainplot <- ggplot(data = diamonds, mapping = aes(x = carat))
mainplot_point_bin <- mainplot+ layer(
  geom = "point",
  stat = "bin",
  position = "identity",
  mapping = aes(y = ..count..))+
  labs(caption = "Plain Dot Plot")+
  theme(plot.caption = element_text(hjust = 0.5))
print(mainplot_point_bin)
```

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



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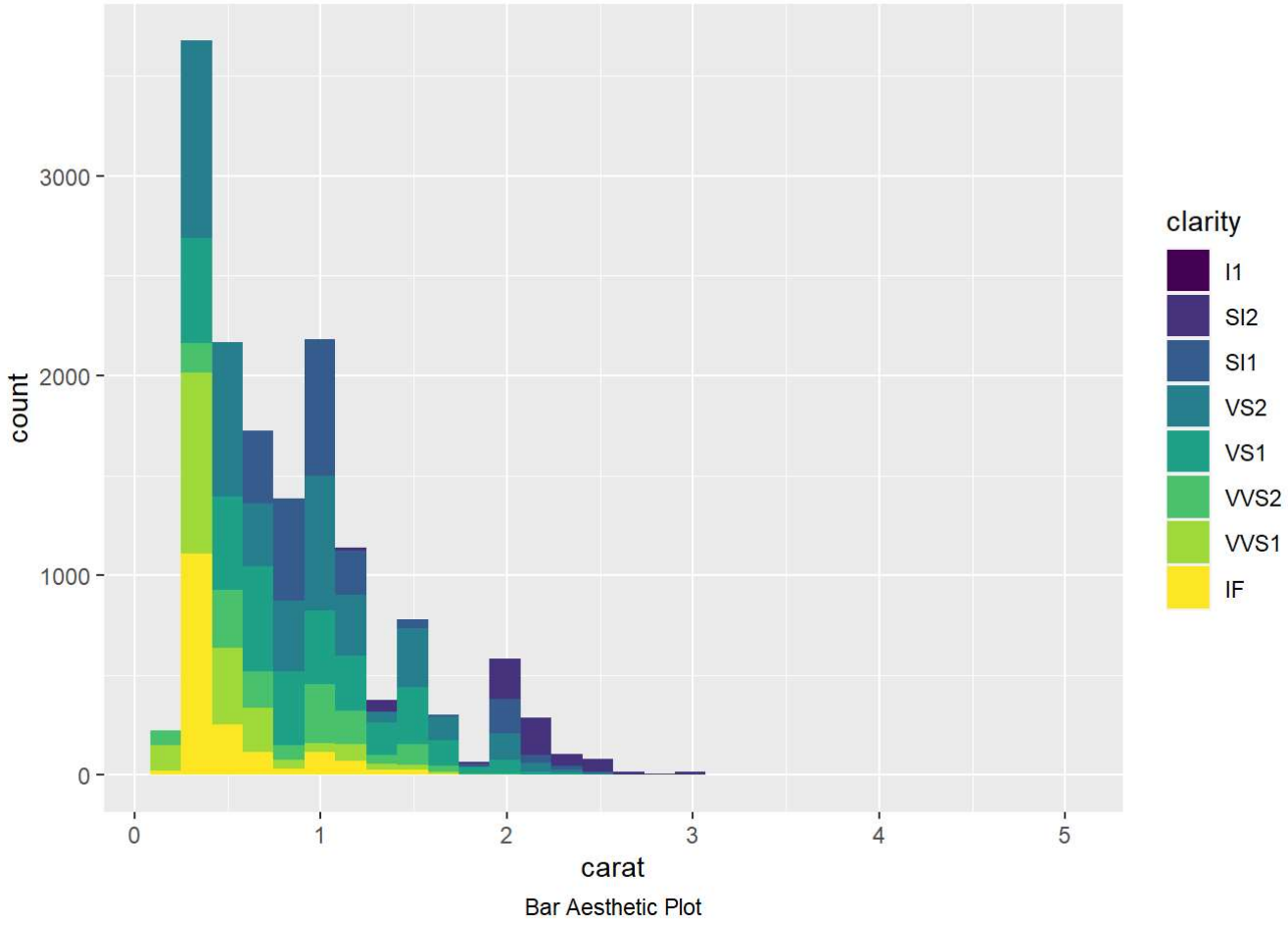
3

In your histogram (the one plotted with bars that you created in question 1), add an aesthetic mapping from one of the factor variables (maybe color or clarity) to the fill or color aesthetic.

```
mainplot_clarity <- ggplot(data = diamonds, mapping = aes(x = carat, fill = clarity))
mainplot_clarity_bar_bin <- mainplot_clarity + layer(
  geom = "bar",
  stat = "bin",
  position = "identity",
  mapping = aes(y = ..count..))+
  labs(caption = "Bar Aesthetic Plot")+
  theme(plot.caption = element_text(hjust = 0.5))
print(mainplot_clarity_bar_bin)
```

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



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4

What is the default position adjustment for a histogram? Try changing the position adjustment in the histogram you created in question 3 to something different (hint: try dodge).

```
library(ggplot2)
mainplot_clarity <- ggplot(data = diamonds, mapping = aes(x = carat, fill = clarity))
mainplot_clarity_bar_bin_dodge <- mainplot_clarity + layer(
  geom = "bar",
  stat = "bin",
  position = "dodge",
  mapping = aes(y = ..count..))+
  labs(caption = "Doge Bar Plot")+
  theme(plot.caption = element_text(hjust = 0.5))
print(mainplot_clarity_bar_bin_dodge)
```

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