

Homework!

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Data Visualization

```
install.packages (c("tidyverse","patchwork"))

## Installing packages into '/cloud/lib/x86_64-pc-linux-gnu-library/4.2'
## (as 'lib' is unspecified)

library(tidyverse)

## -- Attaching packages ----- tidyverse 1.3.2 --

## v ggplot2 3.4.0      v purrr  1.0.0
## v tibble  3.1.8      v dplyr  1.0.10
## v tidyr   1.2.1      v stringr 1.5.0
## v readr   2.1.3      v forcats 0.5.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()

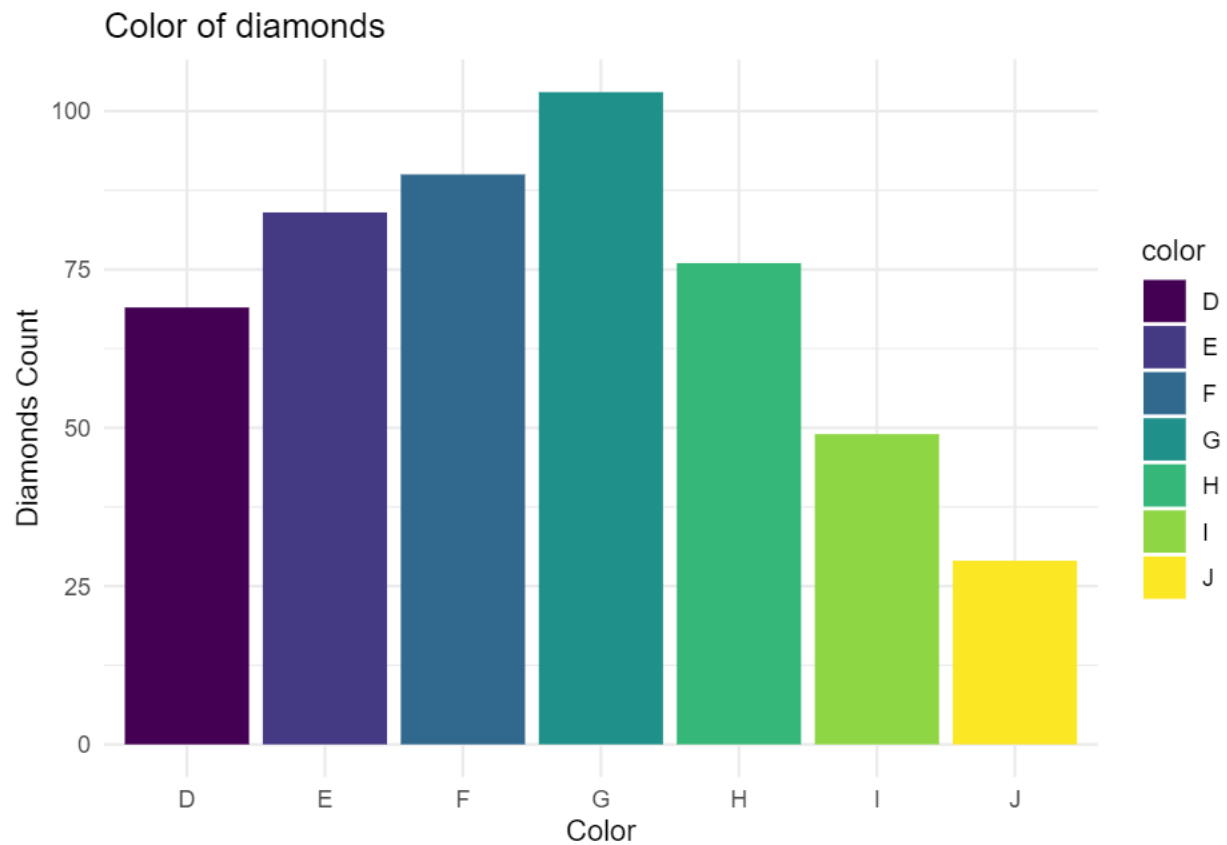
library(patchwork)

head(diamonds)

## # A tibble: 6 x 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
```

1.) Bar chart represents color of diamonds

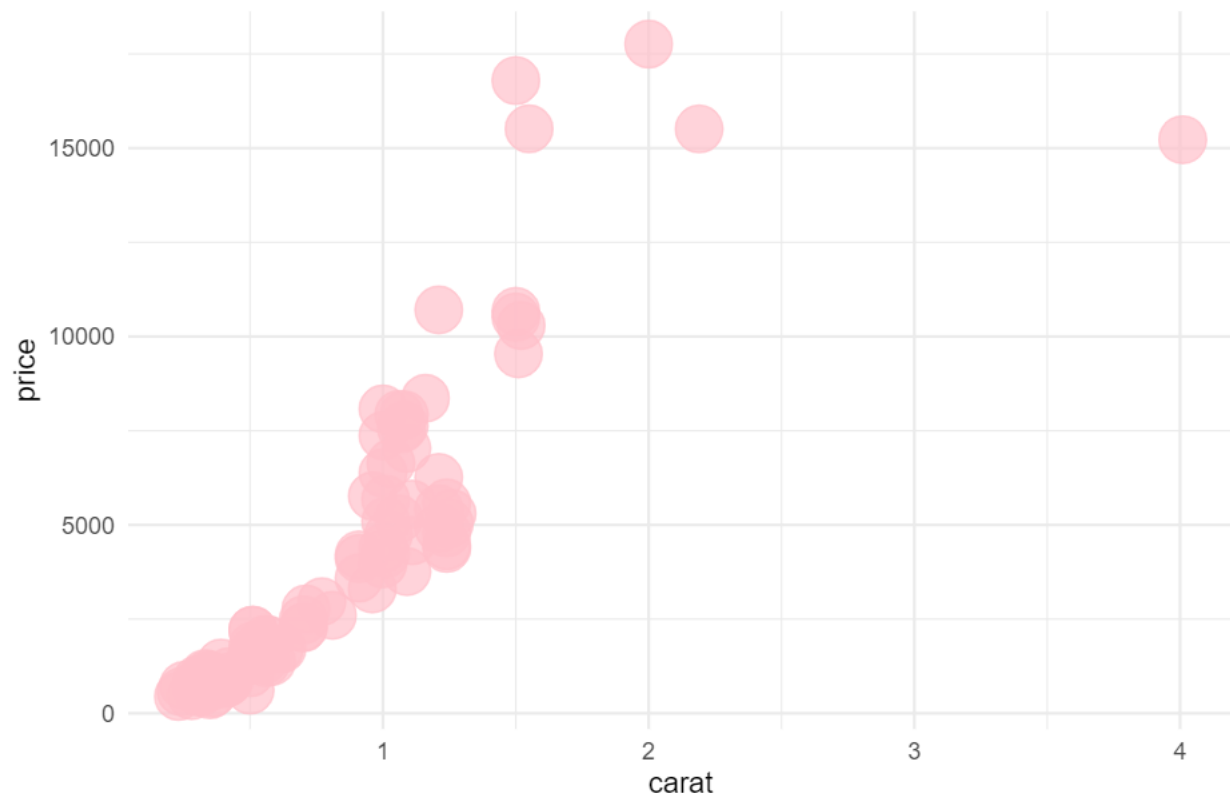
```
ggplot(sample_n(diamonds,500),aes(color , fill = color))+
  geom_bar() +
  labs(x = "Color",
       y = "Diamonds Count",
       title = "Color of diamonds")+
  theme_minimal()
```



2.) Relationship between carat and price of diamonds

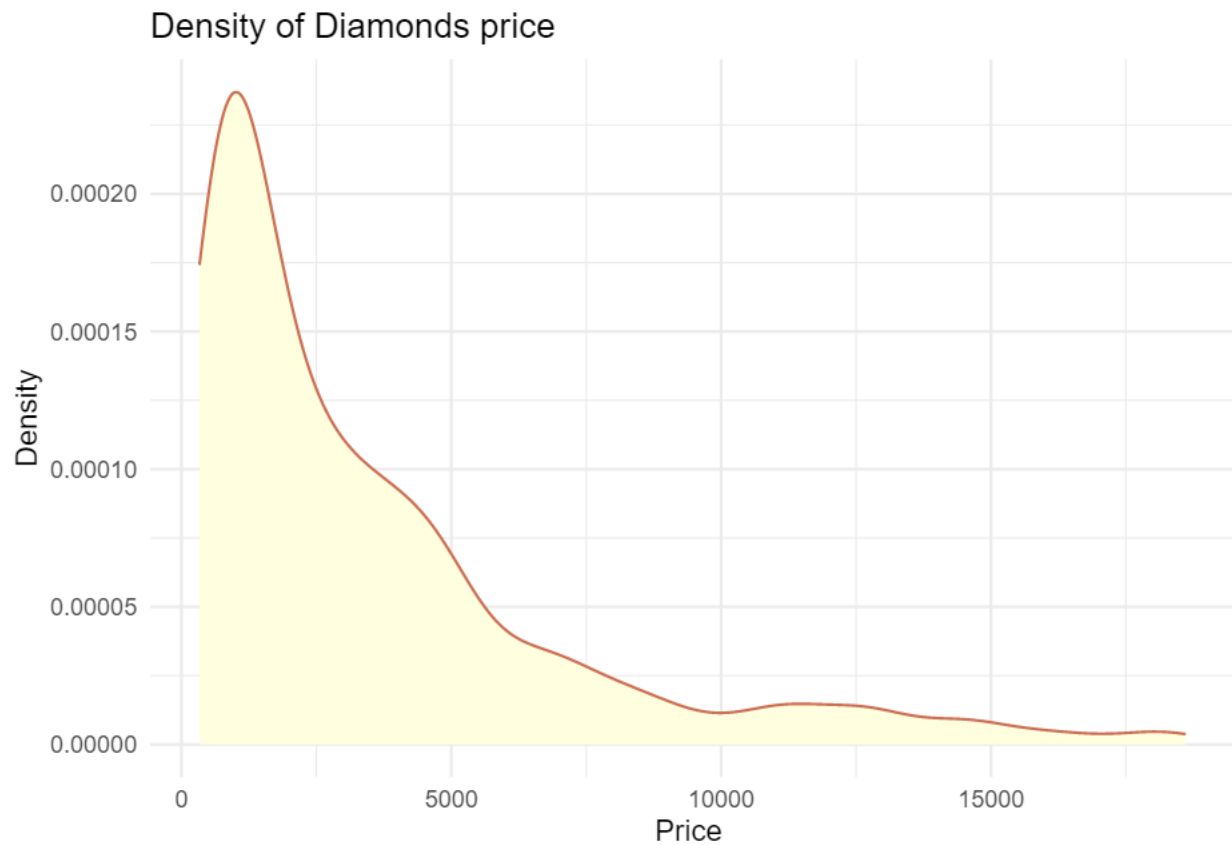
```
ggplot(sample_n(diamonds,100),
  aes(x = carat,
      y = price)) +
  labs(title = "Relationship between carat and price of diamonds") +
  geom_point(color = "Pink",
    size=8,
    alpha= 0.7,)+
  theme_minimal()
```

Relationship between carat and price of diamonds



3.) Density of diamonds price

```
ggplot(sample_n(diamonds,500),aes(x = price)) +  
  geom_density(fill= "lightyellow", color = "salmon3")+  
  labs(title = "Density of Diamonds price",  
        x = "Price ",  
        y = "Density")+  
  theme_minimal()
```

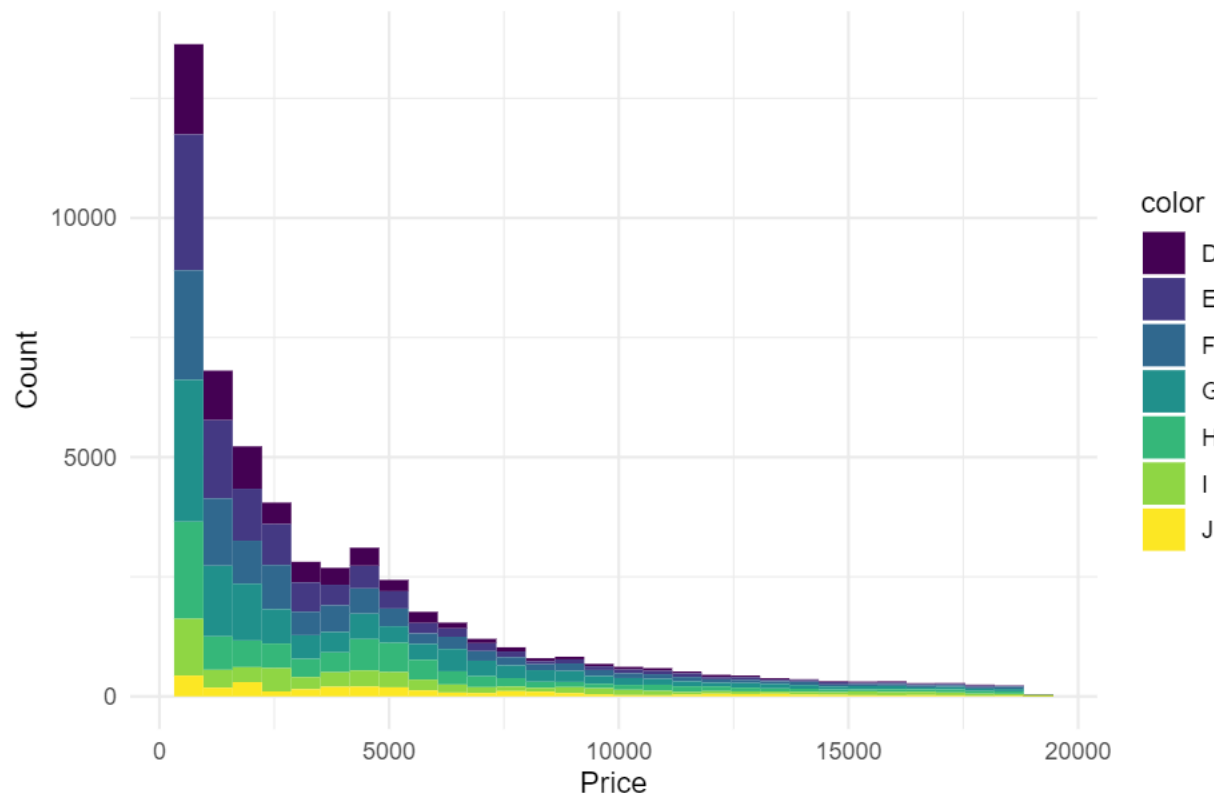


4.) Histogram of relationship between price and color of diamonds

```
ggplot(diamonds, aes(x=price, fill= color)) +  
  geom_histogram()+  
  labs(y="Count",  
       x="Price",  
       title="Histogram of relationship between price and color of diamonds")+  
  theme_minimal()
```

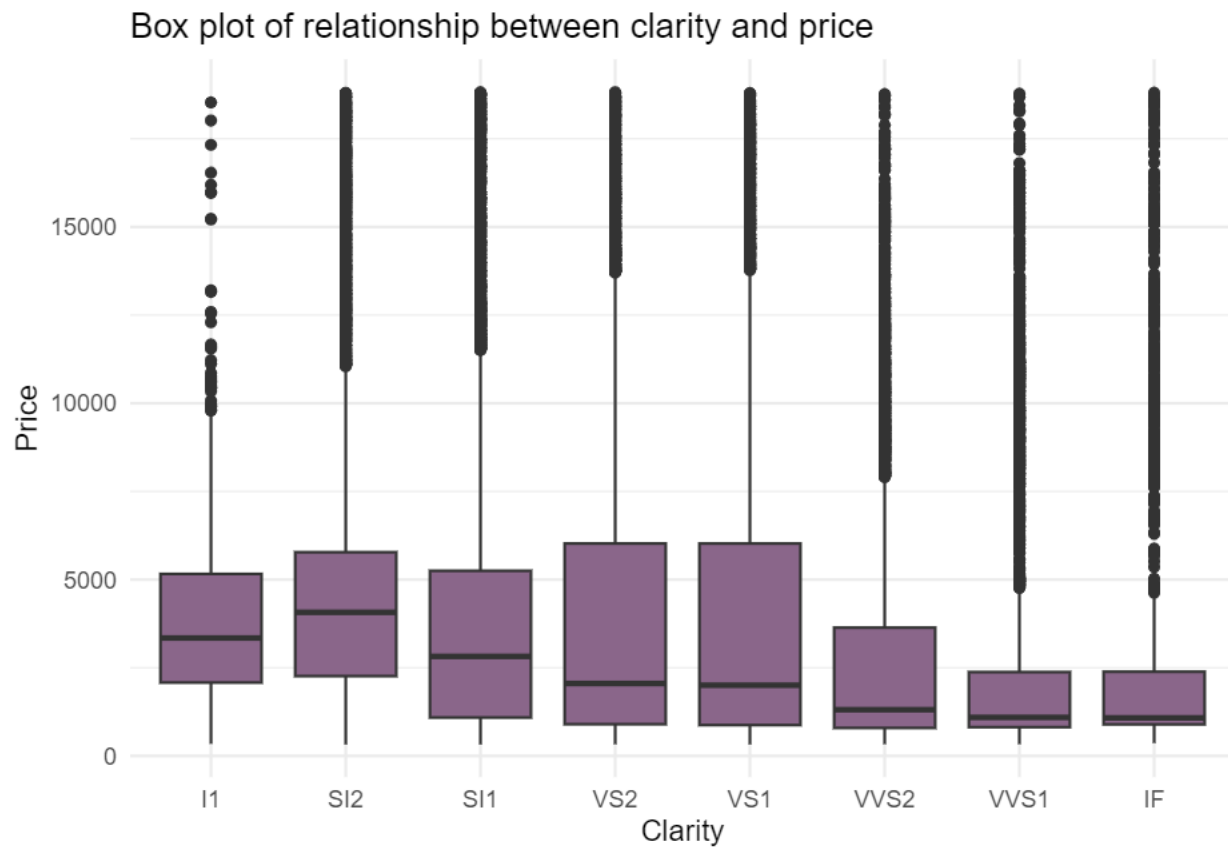
`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.

Histogram of relationship between price and color of diamonds



5.) Box plot of relationship between clarity and price

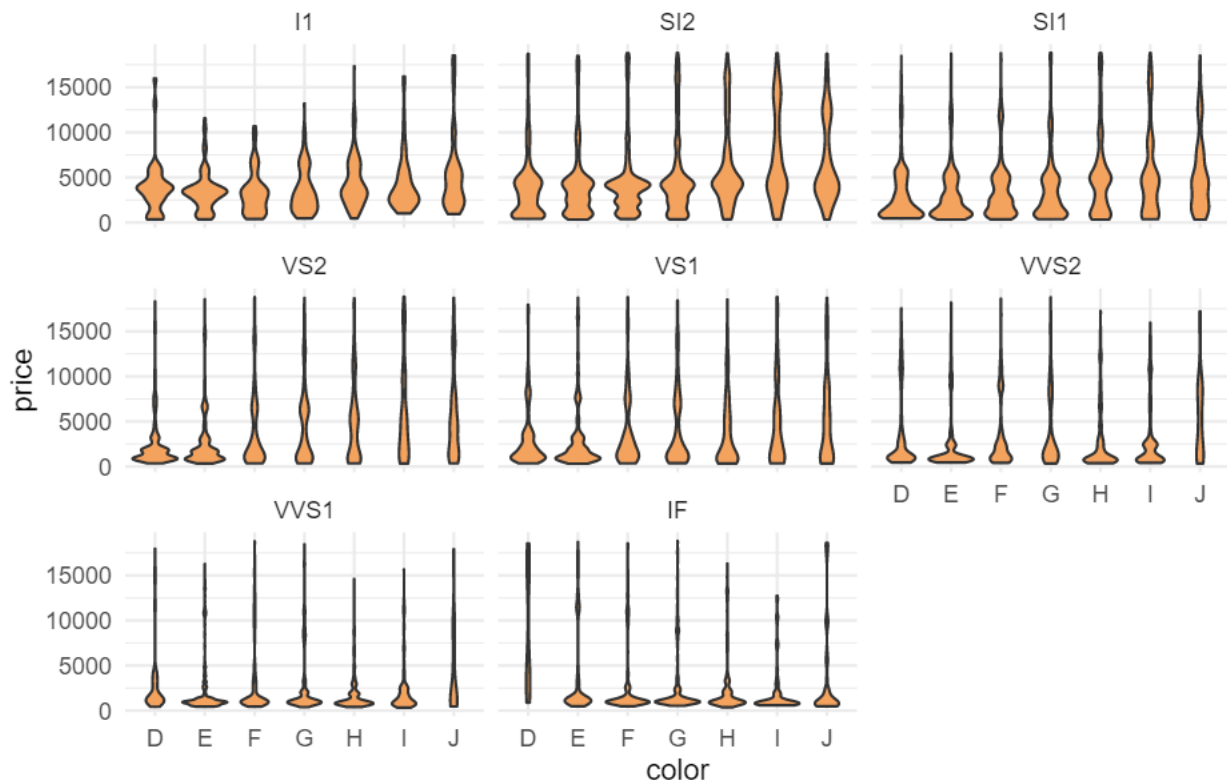
```
ggplot(diamonds, aes(x = clarity, y = price)) +  
  geom_boxplot(fill="plum4")+  
  labs(y = "Price",  
       x = "Clarity",  
       title = "Box plot of relationship between clarity and price")+  
  theme_minimal()
```



6.) Violin plot of relationship between color and price by clarity

```
ggplot(diamonds, aes(x=color, y=price)) +  
  geom_violin(fill = "sandybrown") +  
  labs(title = "Violin plot of relationship between color and price by clarity")+  
  facet_wrap(~ clarity)+  
  theme_minimal()
```

Violin plot of relationship between color and price by clarity



7.) Histogram represents the depth of diamonds

```
ggplot(diamonds,aes(x=depth))+
  geom_histogram(fill="lightgreen")+
  labs(title = "Depth of diamonds",
        x= "Depth of diamonds",
        y= "Diamonds count")+
  theme_minimal()
```

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

