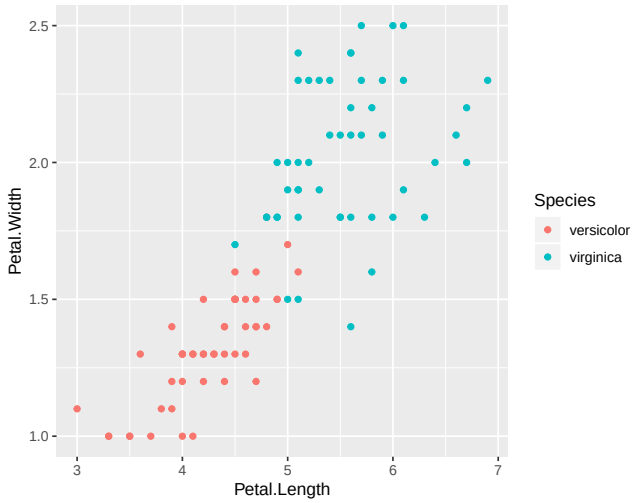
Homework 2

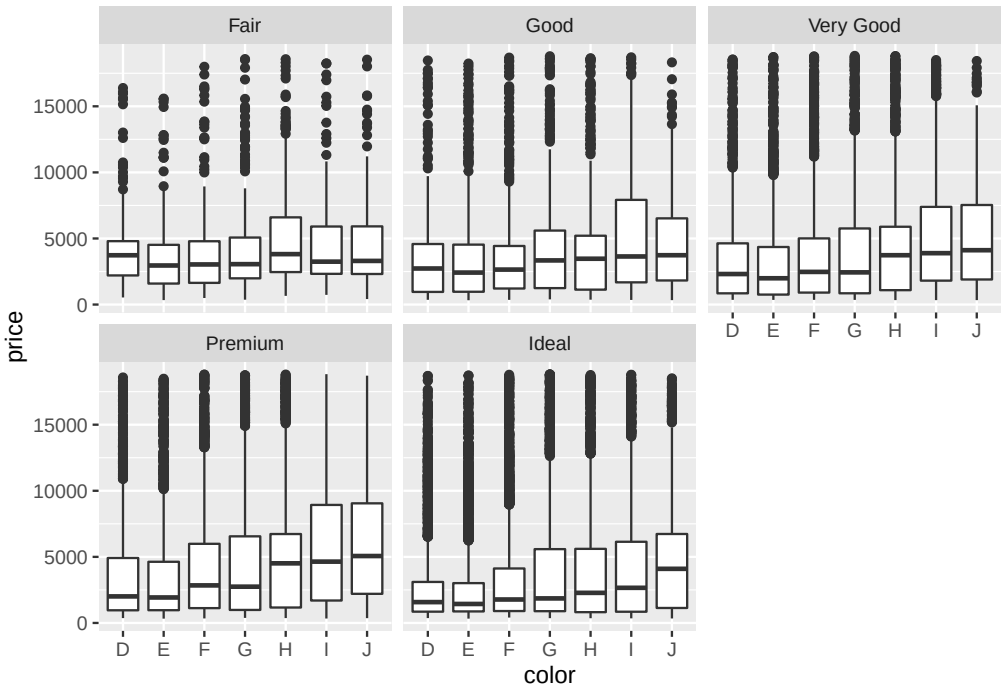
due Feb 4, 2020

1. Recall `iris` data set. Find the maximum value of the sum `Sepal.Length` + `Sepal.Width`. To which species does the sample with the maximum value you found above belong? *Hint*: you might want to start with defining a new variable `Sepal.Sum` using `mutate()`, for example.

2. Create the following plot using `iris` data set. Note that `setosa` species do not show up. You do NOT need to adjust size or width/height ratio of the plot.



3. Create the following plot using `diamonds` data set.


Fair
Good
Very Good
Premium
Ideal
price
color
0
5000
10000
15000
D
E
F
G
H
I
J

4. Determine c so that the probability $0 \leq Z \leq c$ is 0.45, where Z follows the standard normal distribution $N(0, 1^2)$.

5. Recall the `heights.txt` data we used in class with 1375 mom/daughter height pairs:

```
ht <- read.table(file = "heights.txt", header = T, sep = " ")
```

Assuming that UK women's heights follow a normal distribution $N(\mu, \sigma^2)$, compute the 95% confidence interval of μ based on the daughter's height data.