Week 3 assignment

1.

a.

> sepal.width = iris$Sepal.Width

> sepal.width

[1] 3.5 3.0 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 3.7 3.4 3.0 3.0 4.0 4.4 3.9 3.5 3.8 3.8 3.4 3.7 3.6 3.3 3.4 3.0

[27] 3.4 3.5 3.4 3.2 3.1 3.4 4.1 4.2 3.1 3.2 3.5 3.6 3.0 3.4 3.5 2.3 3.2 3.5 3.8 3.0 3.8 3.2 3.7 3.3 3.2 3.2

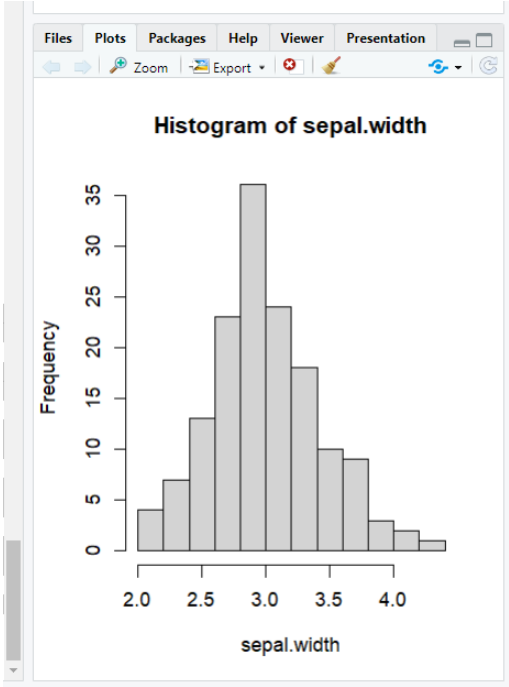
[53] 3.1 2.3 2.8 2.8 3.3 2.4 2.9 2.7 2.0 3.0 2.2 2.9 2.9 3.1 3.0 2.7 2.2 2.5 3.2 2.8 2.5 2.8 2.9 3.0 2.8 3.0

[79] 2.9 2.6 2.4 2.4 2.7 2.7 3.0 3.4 3.1 2.3 3.0 2.5 2.6 3.0 2.6 2.3 2.7 3.0 2.9 2.9 2.5 2.8 3.3 2.7 3.0 2.9

[105] 3.0 3.0 2.5 2.9 2.5 3.6 3.2 2.7 3.0 2.5 2.8 3.2 3.0 3.8 2.6 2.2 3.2 2.8 2.8 2.7 3.3 3.2 2.8 3.0 2.8 3.0

[131] 2.8 3.8 2.8 2.8 2.6 3.0 3.4 3.1 3.0 3.1 3.1 3.1 2.7 3.2 3.3 3.0 2.5 3.0 3.4 3.0

> hist(sepal.width)



b.

I would expect the mean to be higher than the median, because the data is skewed to the right.

c.

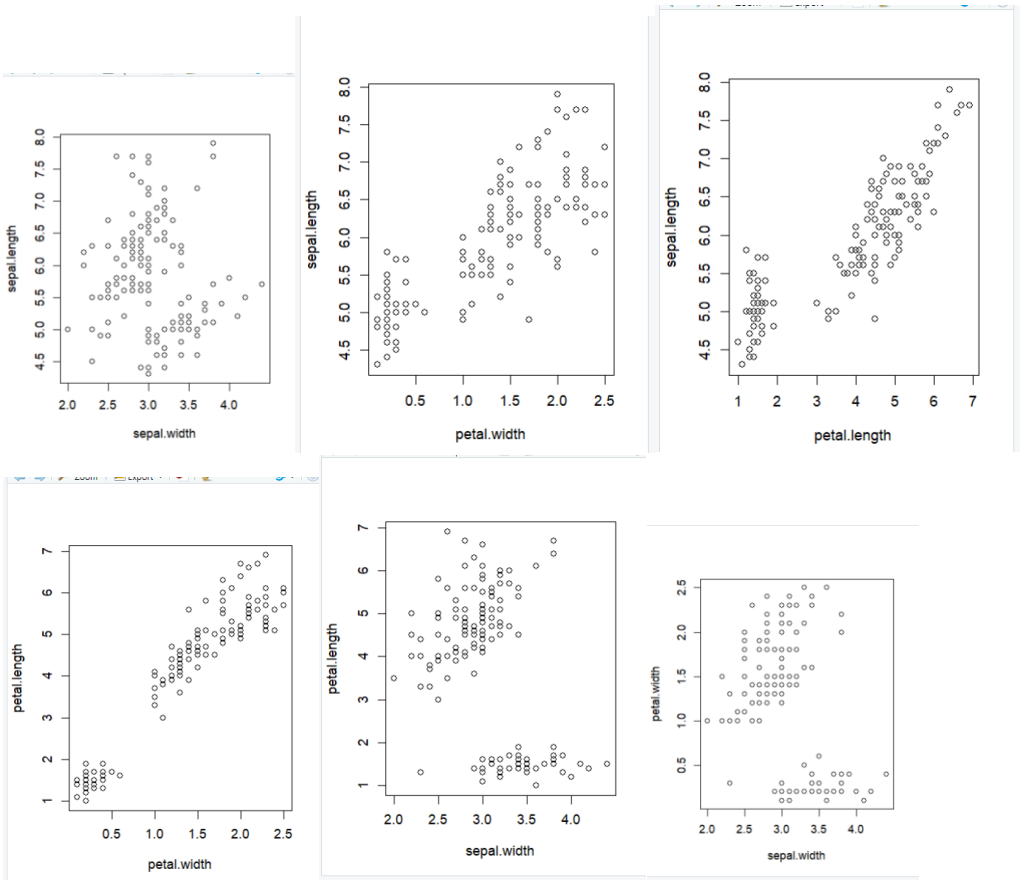
```
> mean(sepal.width)
[1] 3.057333
> median(sepal.width)
[1] 3
```

d.

```
> quantile(sepal.width, 0.73)
73%
3.3
```

e.

```
> sepal.length = iris$Sepal.Length
> petal.length = iris$Petal.Length
> petal.width = iris$Petal.Width
> plot(sepal.length~sepal.width)
> plot(sepal.length~petal.width)
> plot(sepal.length~petal.length)
> plot(petal.length~sepal.width)
> plot(petal.length~petal.width)
> plot(petal.width~sepal.width)
```



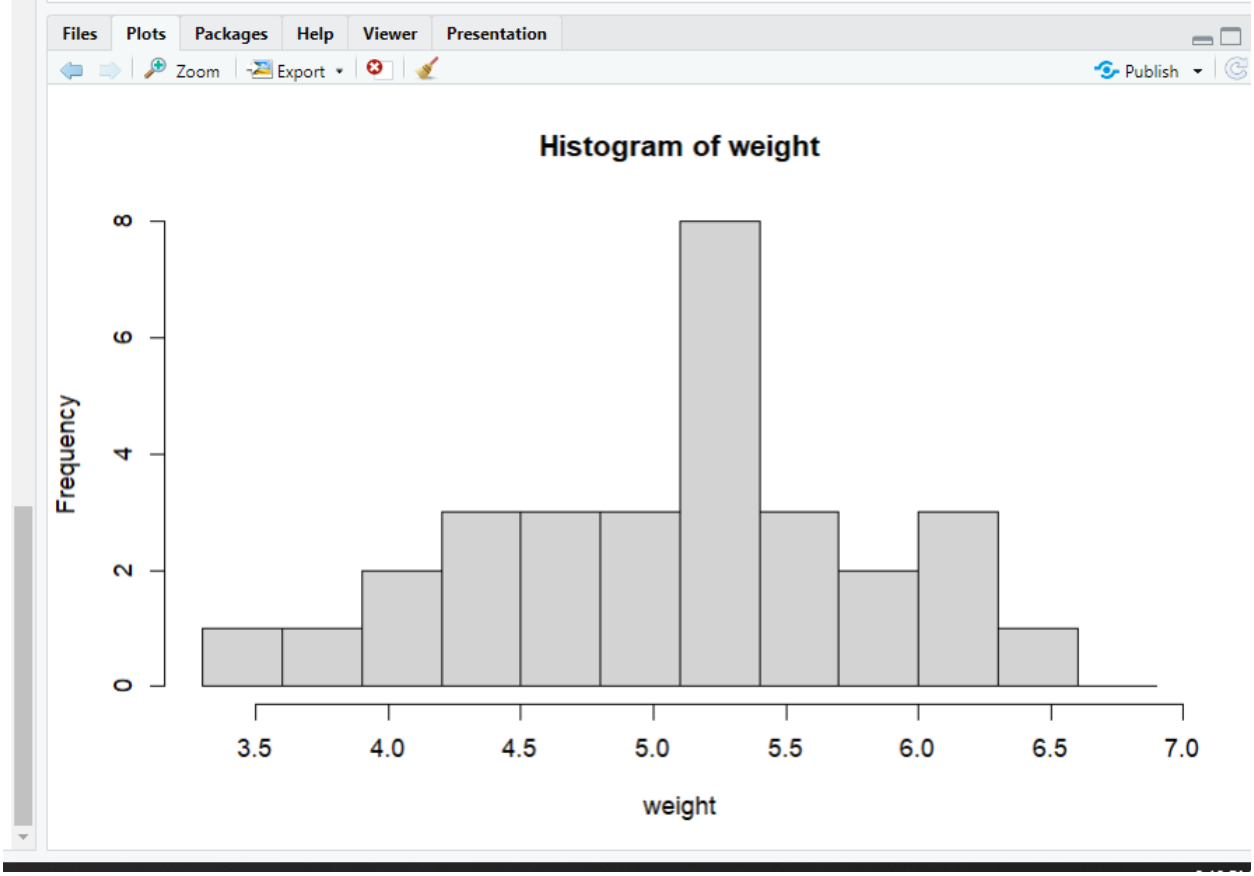
f.

Petal length and petal width appear to have the strongest relationship, you can see a correlation with petal length and width rising together in the graph. Sepal length and sepal width seem to not have much correlation at all, which would lead me to believe they have the weakest relationship.

2.

a.

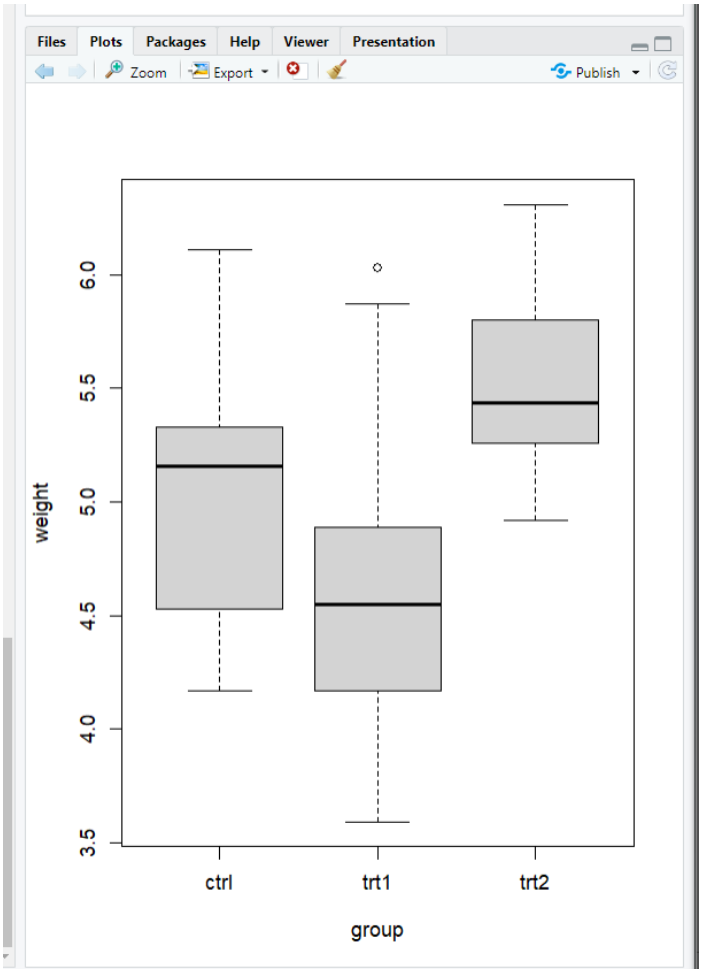
> hist(weight, breaks = seq(from = 3.3, to = 7, by = 0.3))



b.

> group = PlantGrowth$group

> boxplot(weight~group)



c. Approximately 80%

d.

> min(Weight2)

[1] 4.92

Weight1 = weight [group == "trt1"]

> Weight1 < 4.92

[1] TRUE TRUE TRUE TRUE FALSE TRUE FALSE TRUE TRUE TRUE

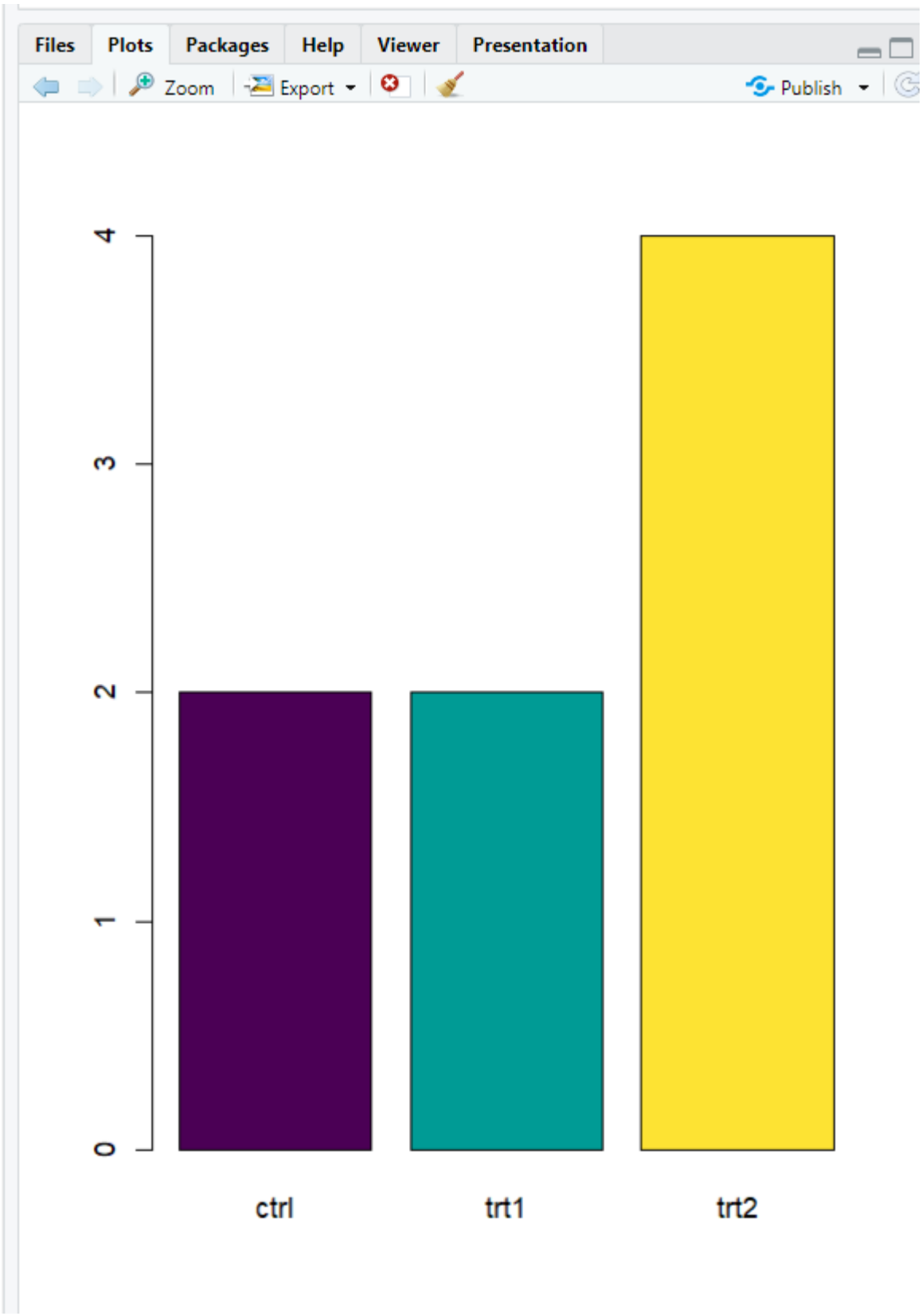
> mean(Weight1 < 4.92)

[1] 0.8

80% are below the minimum trt2 weight

e.

```
> BigPlants = PlantGrowth[PlantGrowth$weight>5.5,]
> BigPlants
   weight group
2    5.58  ctrl
4    6.11  ctrl
15   5.87  trt1
17   6.03  trt1
21   6.31  trt2
23   5.54  trt2
28   6.15  trt2
29   5.80  trt2
barplot(table(BigPlants$group), col=hcl.colors(n = 3))
```


Files
Plots
Packages
Help
Viewer
Presentation
Zoom
Export
Publish
4
3
2
1
0
ctrl
trt1
trt2