R-intro - Session 4 (part 2 - ggplot2) exercise solutions

João Gonçalves

1 de Agosto de 2018

Contents

Making scatterplots

Exercise 1

```
library(ggplot2)
```

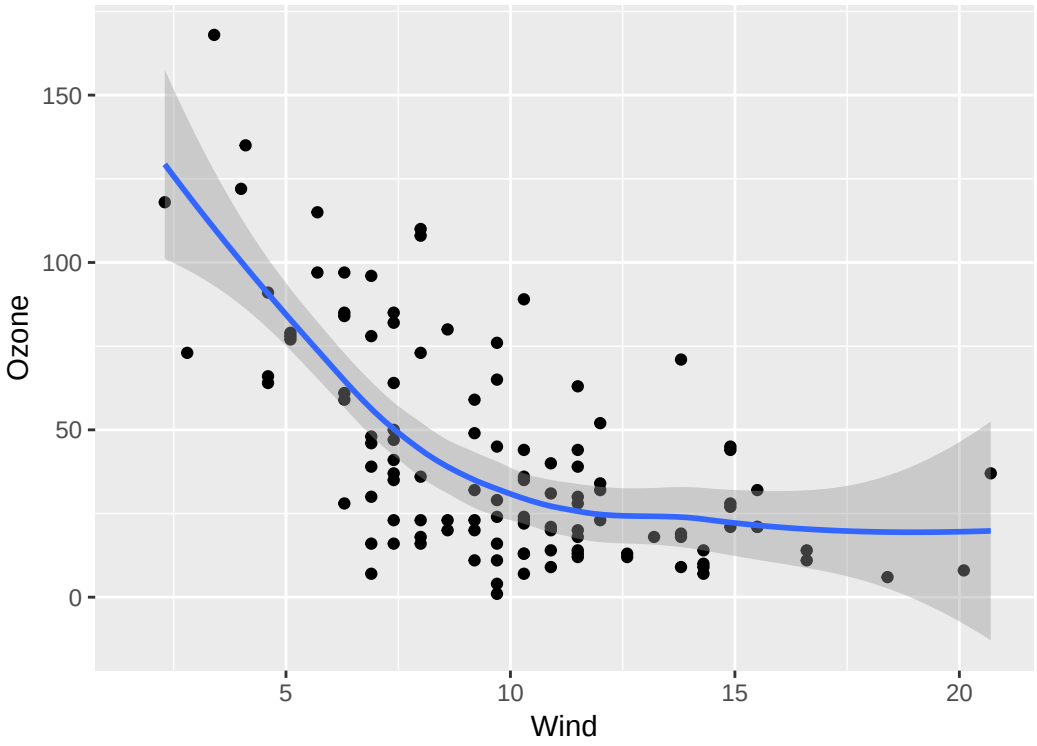
1a.

```
g <- ggplot(data = airquality, mapping = aes(x = Wind, y = Ozone)) +
     geom_point() +
     #geom_smooth(method = "lm")
     geom_smooth()

plot(g)
```

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

```
## Warning: Removed 37 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 37 rows containing missing values (geom_point).
```



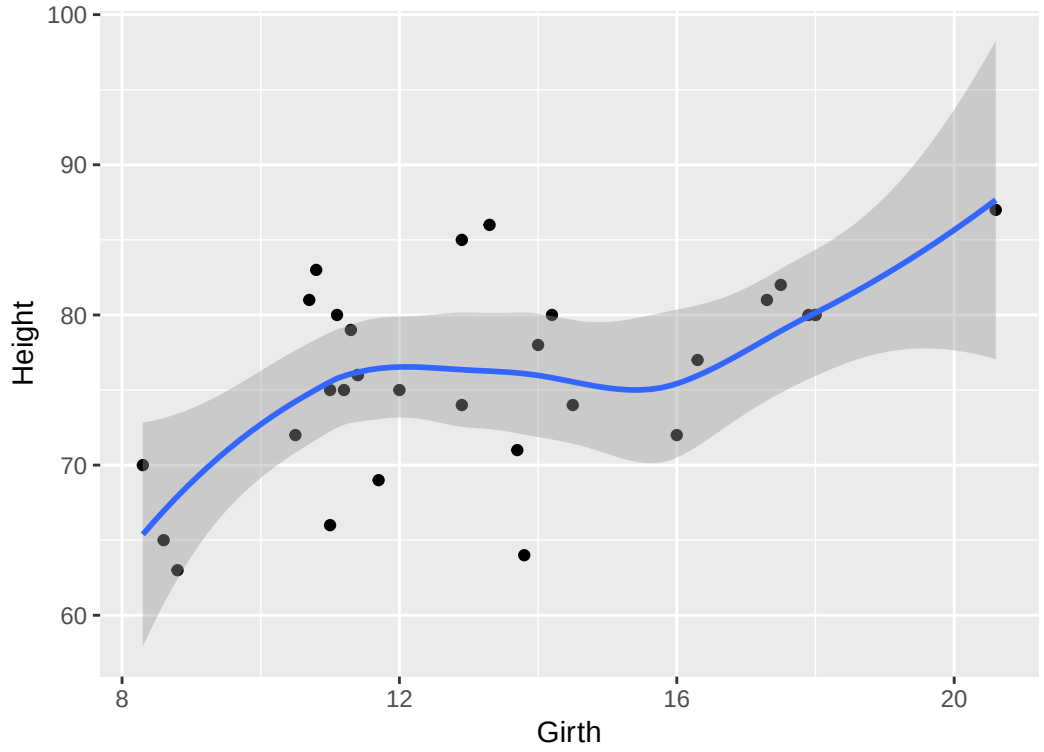
Modifying and improving plots

Exercise 2

2a.

```
g <- ggplot(data = trees, mapping = aes(x = Girth, y = Height)) +
  geom_point() +
  geom_smooth()

plot(g)
```

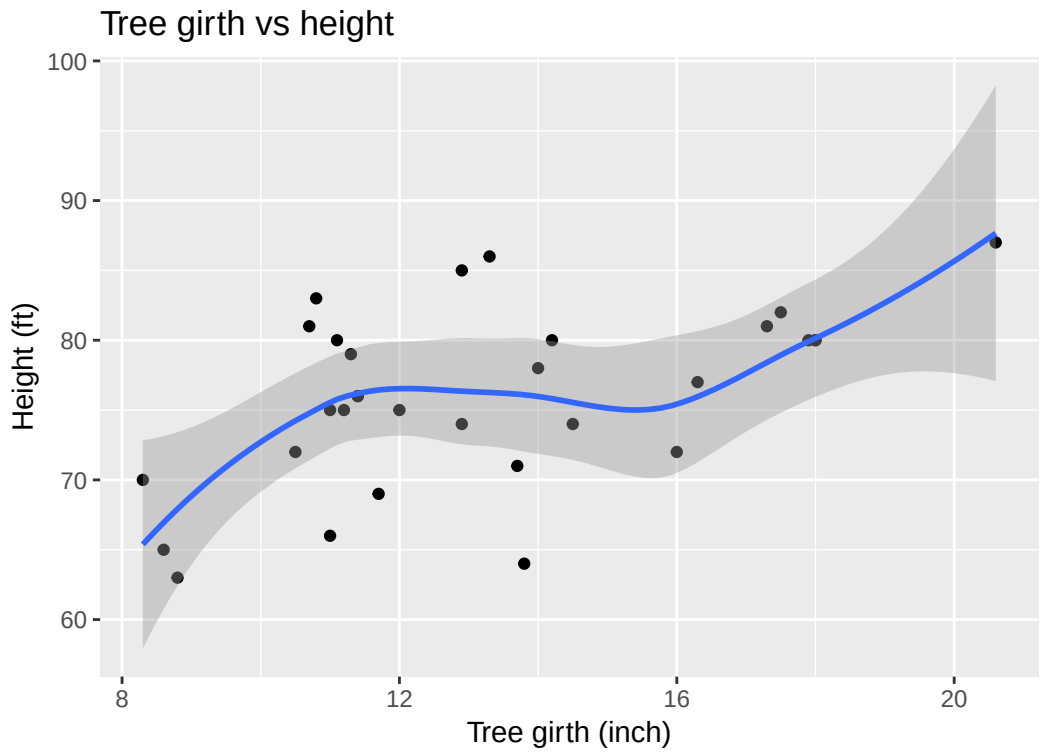
```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```



2b.

```
g <- ggplot(data = trees, mapping = aes(x = Girth, y = Height)) +
  geom_point() +
  geom_smooth() +
  labs(x="Tree girth (inch)", y="Height (ft)", title="Tree girth vs height")

plot(g)
```

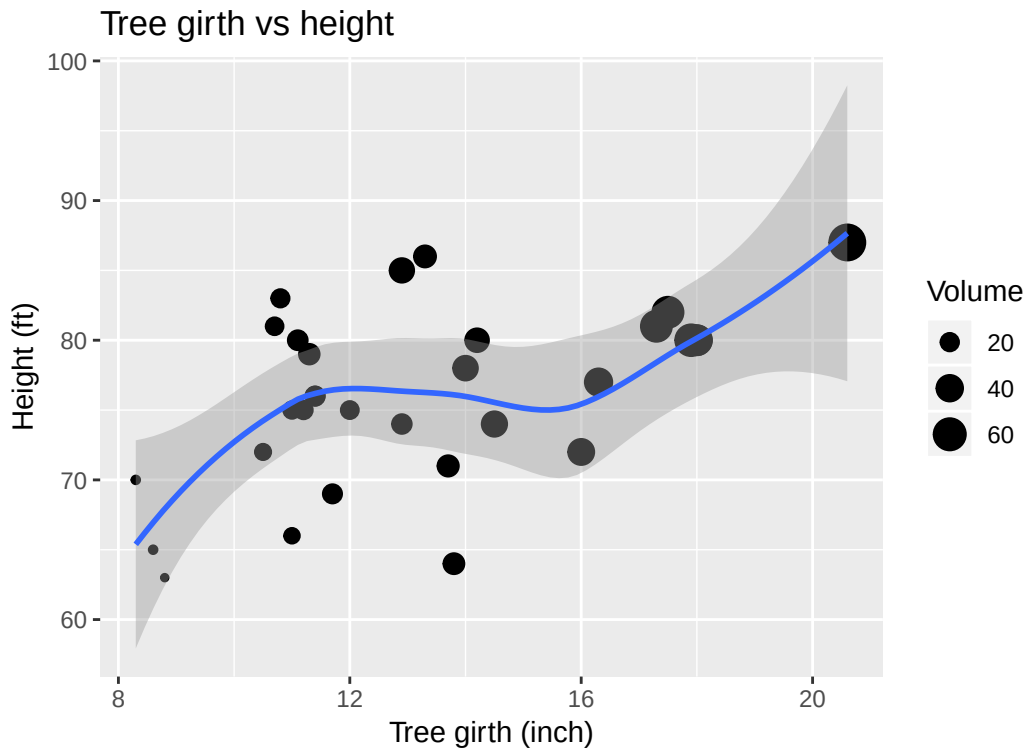
```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```



2c.

```
g <- ggplot(data = trees, mapping = aes(x = Girth, y = Height)) +
     geom_point(aes(size = Volume)) +
     geom_smooth() + # Use se = FALSE to remove the confidence bands
     labs(x="Tree girth (inch)", y="Height (ft)", title="Tree girth vs height")

plot(g)
```

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```



Visualizing distributions

Boxplots, histograms and density plots

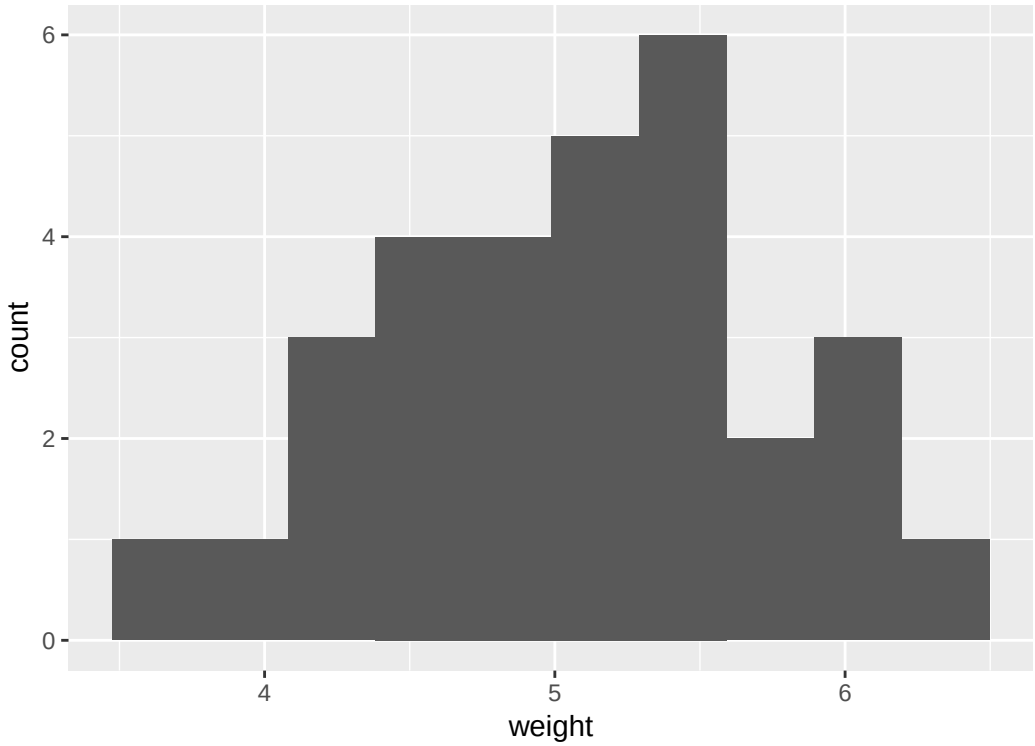
Exercise 3

3a.

```
g <- ggplot(data = PlantGrowth, aes(x = weight)) +
     geom_histogram(bins = 10)

median(PlantGrowth$weight)
```

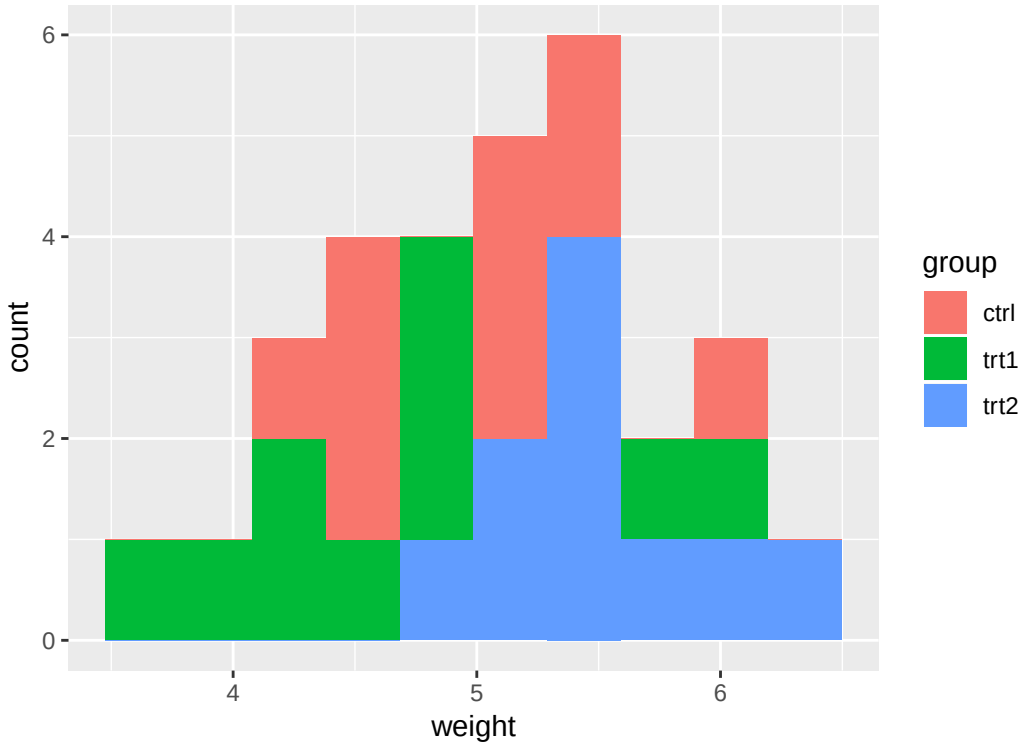
```
## [1] 5.155
```

```
plot(g)
```

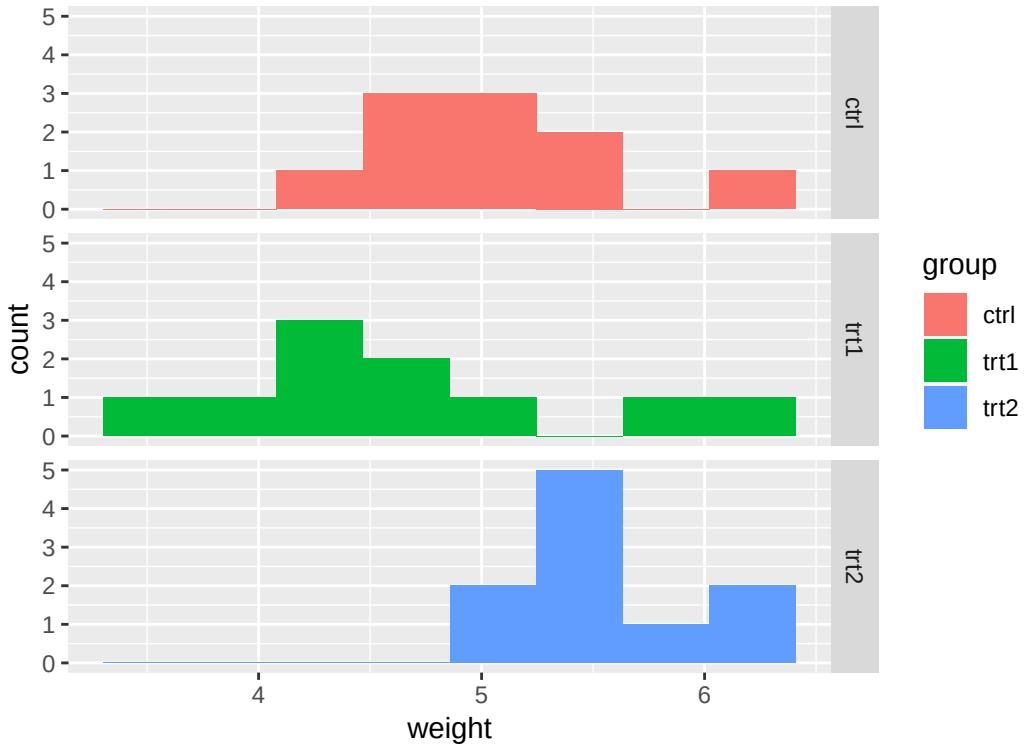


3b.

```
g1 <- ggplot(data = PlantGrowth, aes(x = weight, fill=group)) +
     geom_histogram(bins = 10)

plot(g1)
```

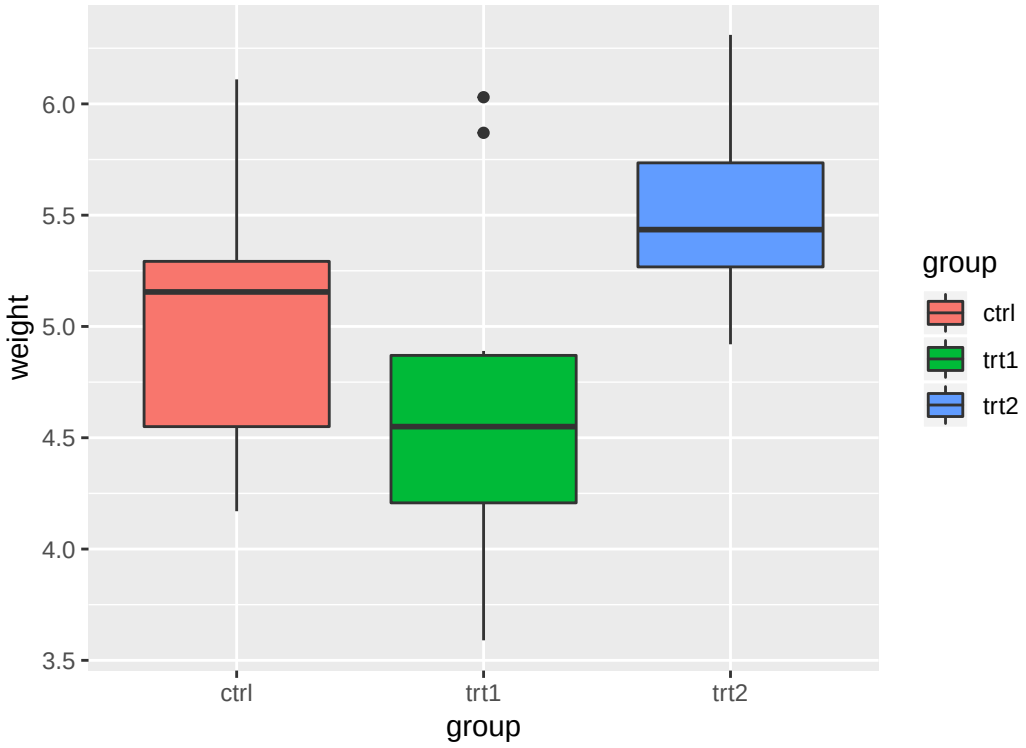



```
g2 <- ggplot(data = PlantGrowth, aes(x = weight, fill=group)) +
     geom_histogram(bins = 8) +
     facet_grid(group ~ .)

plot(g2)
```



3c.

```
g1 <- ggplot(data = PlantGrowth, aes(y = weight, x=group, fill=group)) +
     geom_boxplot()

plot(g1)
```


6.0
5.5
5.0
4.5
4.0
3.5
weight
ctrl
trt1
trt2
group
group
ctrl
trt1
trt2