# R Learners

7-18-2018

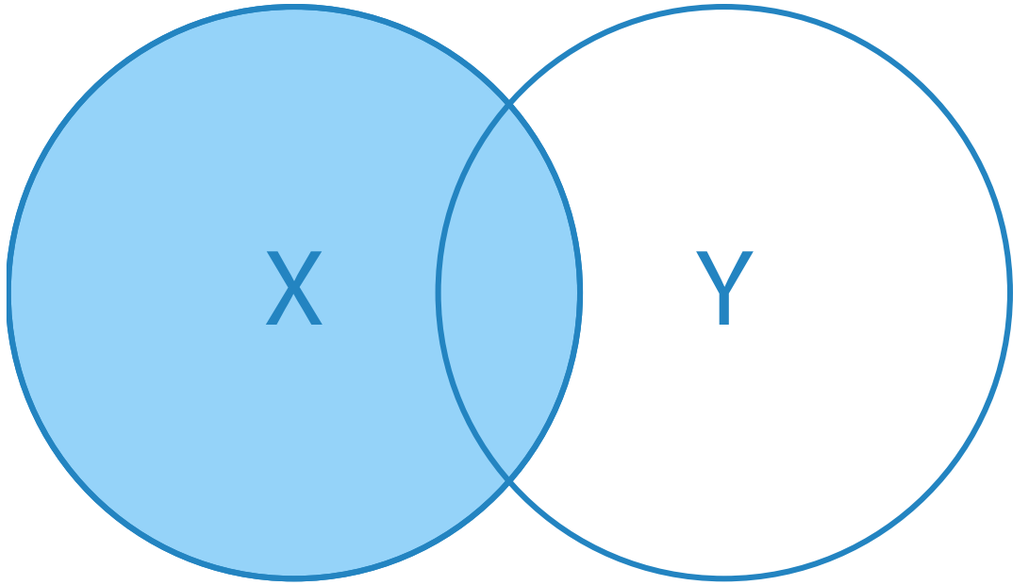
# Joining


‘Data Transformation Cheat Sheet’

https://www.rstudio.com/resources/cheatsheets/

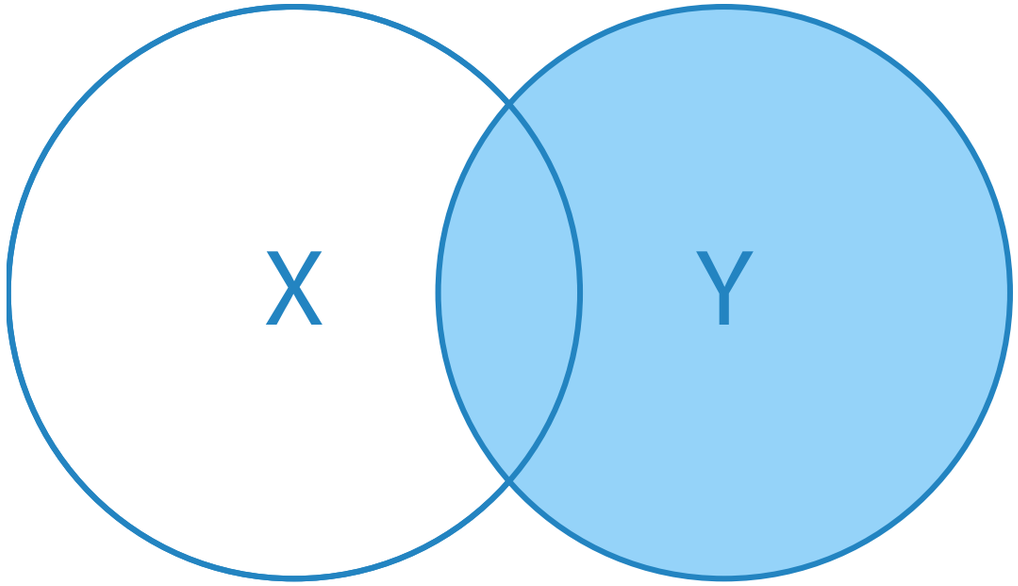
# Joining

```
left_join(X, Y, by = 'id')
```



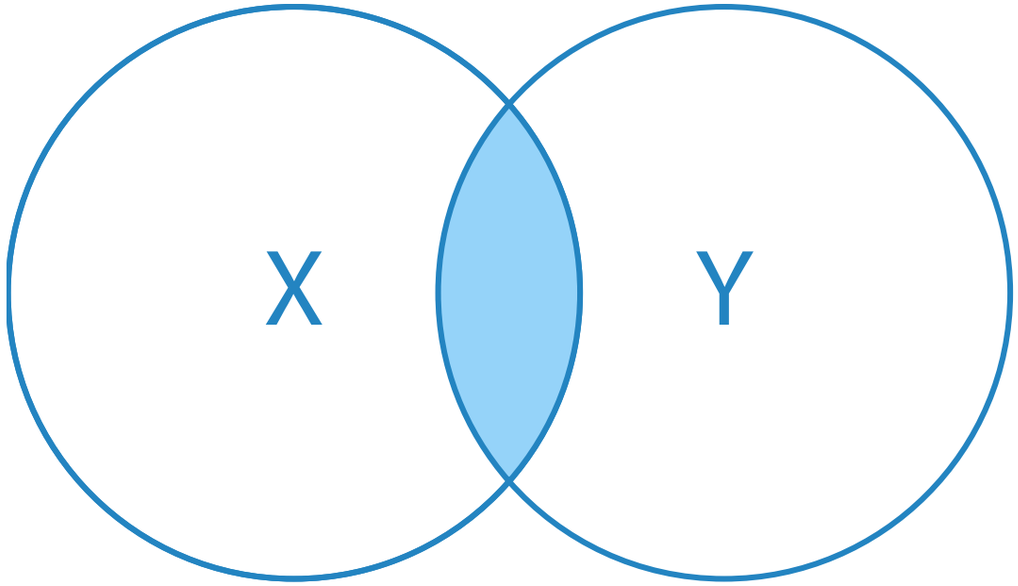
# Joining

```
right_join(X, Y, by = 'id')
```



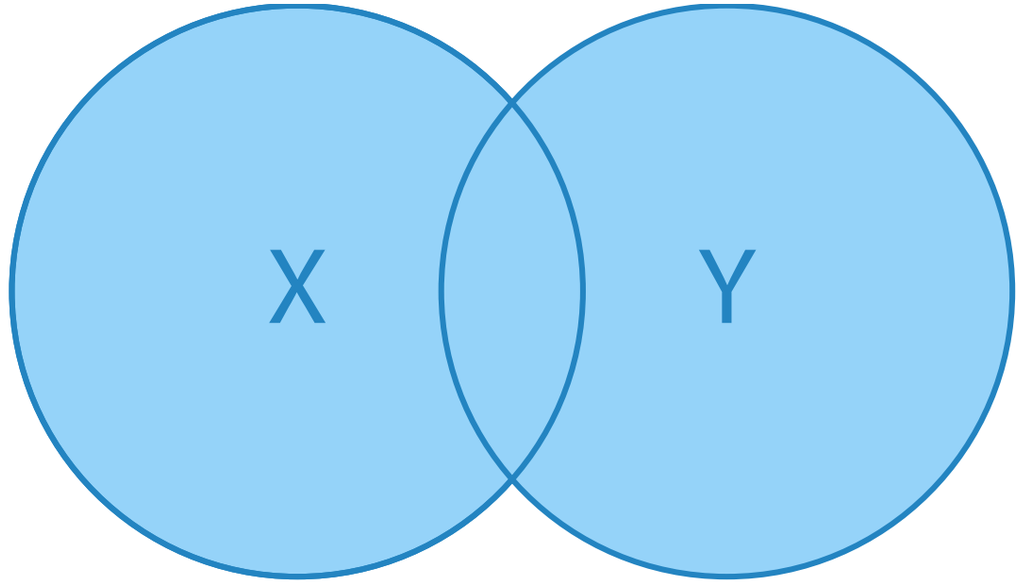
# Joining

```
inner_join(X, Y, by = 'id')
```



# Joining

```
full_join(X, Y, by = 'id')
```



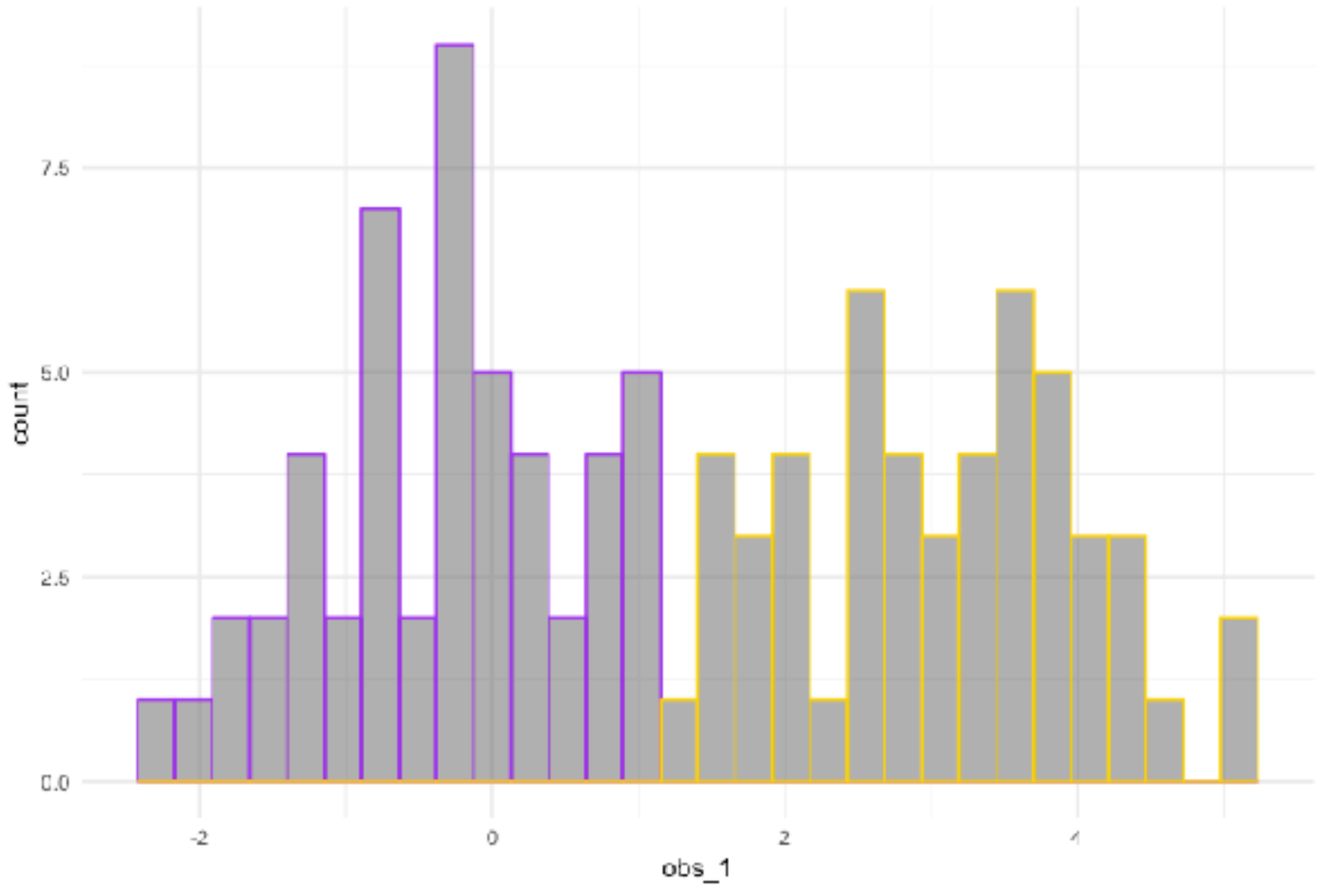
# t-test

```
set.seed(<int>)

df_ttest <- tibble(
  obs_1 = rnorm(50, mean = 0, sd = 1),
  obs_2 = rnorm(50, mean = 3, sd = 1)
)
```

# t-test

```
ggplot(data = df_ttest) +
  geom_histogram(aes(obs_1), color = 'purple', alpha = 0.5) +
  geom_histogram(aes(obs_2), color = 'gold', alpha = 0.5) +
  theme_minimal()
```

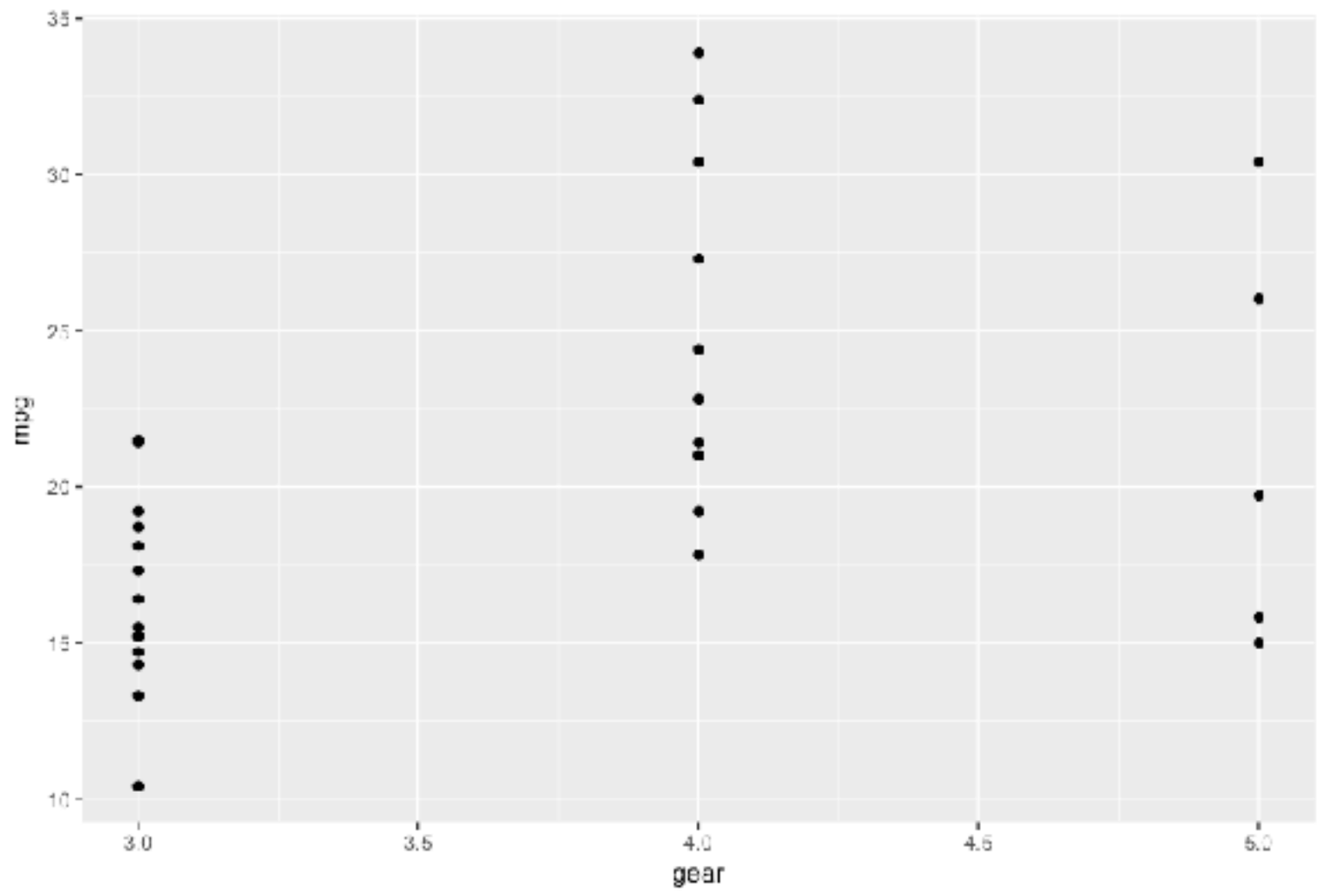


# t-test

```
t.test(df_ttest$obs_1, df_ttest$obs_2)
```

# One-way ANOVA

```
ggplot(data = mtcars) +
  geom_point(aes(x = gear, y = mpg))
```



# One-way ANOVA

```
aov_1 <- aov(mpg ~ as.factor(gear), data = mtcars)

summary(aov_1)
```

# One-way ANOVA

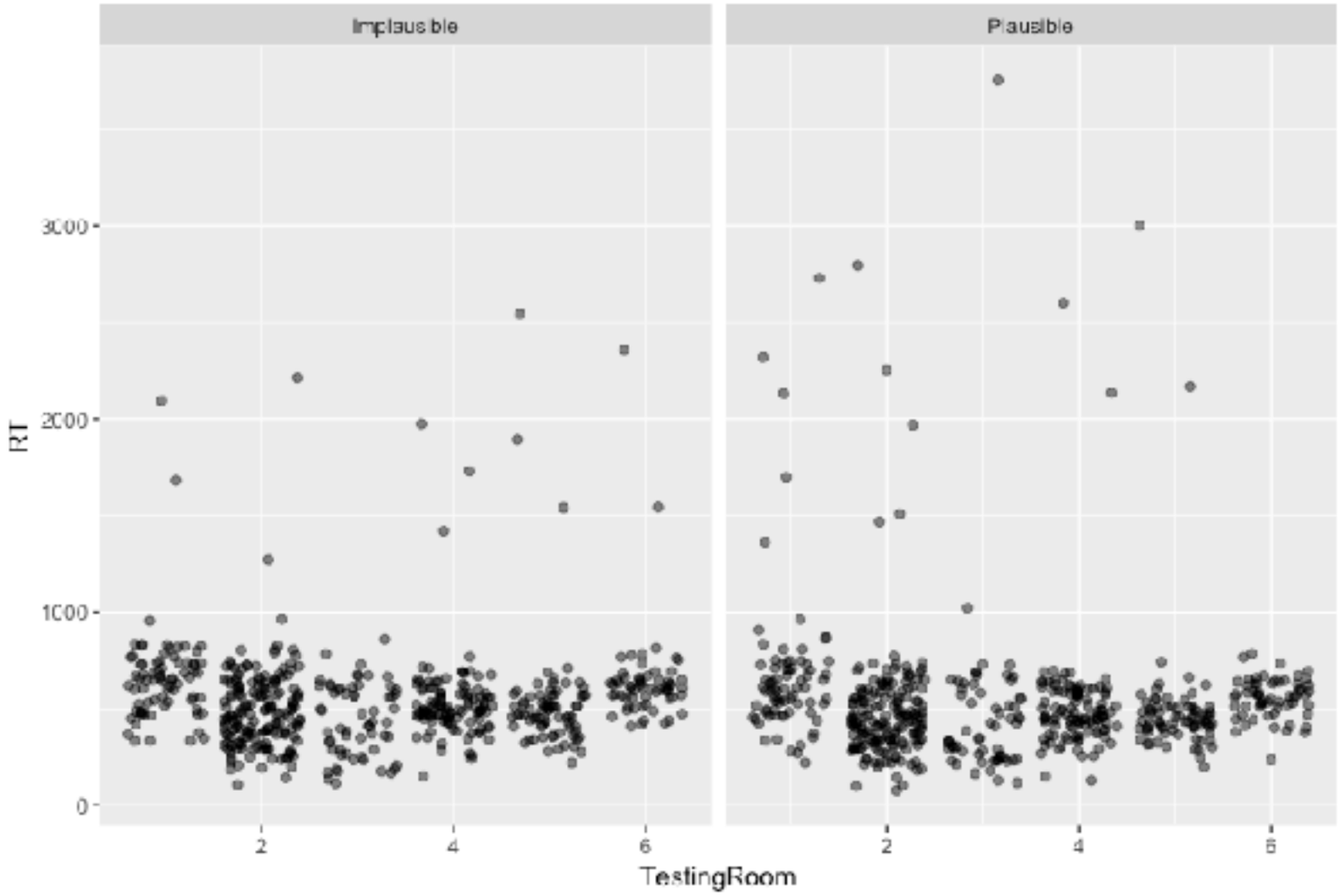
```
pairwise.t.test(
  x = mtcars$mpg,
  g = mtcars$gear,
  p.adjust.method = ‘bonferroni'
)
```

```
pairwise.t.test(
  x = mtcars$mpg,
  g = mtcars$gear,
  p.adjust.method = ‘fdr'
)

TukeyHSD(aov_1)
```

# Two-way ANOVA

```
ggplot(data = experiment) +
  geom_jitter(aes(x = TestingRoom, y = RT), alpha = 0.5) +
  facet_grid(~Condition)
```



# Two-way ANOVA

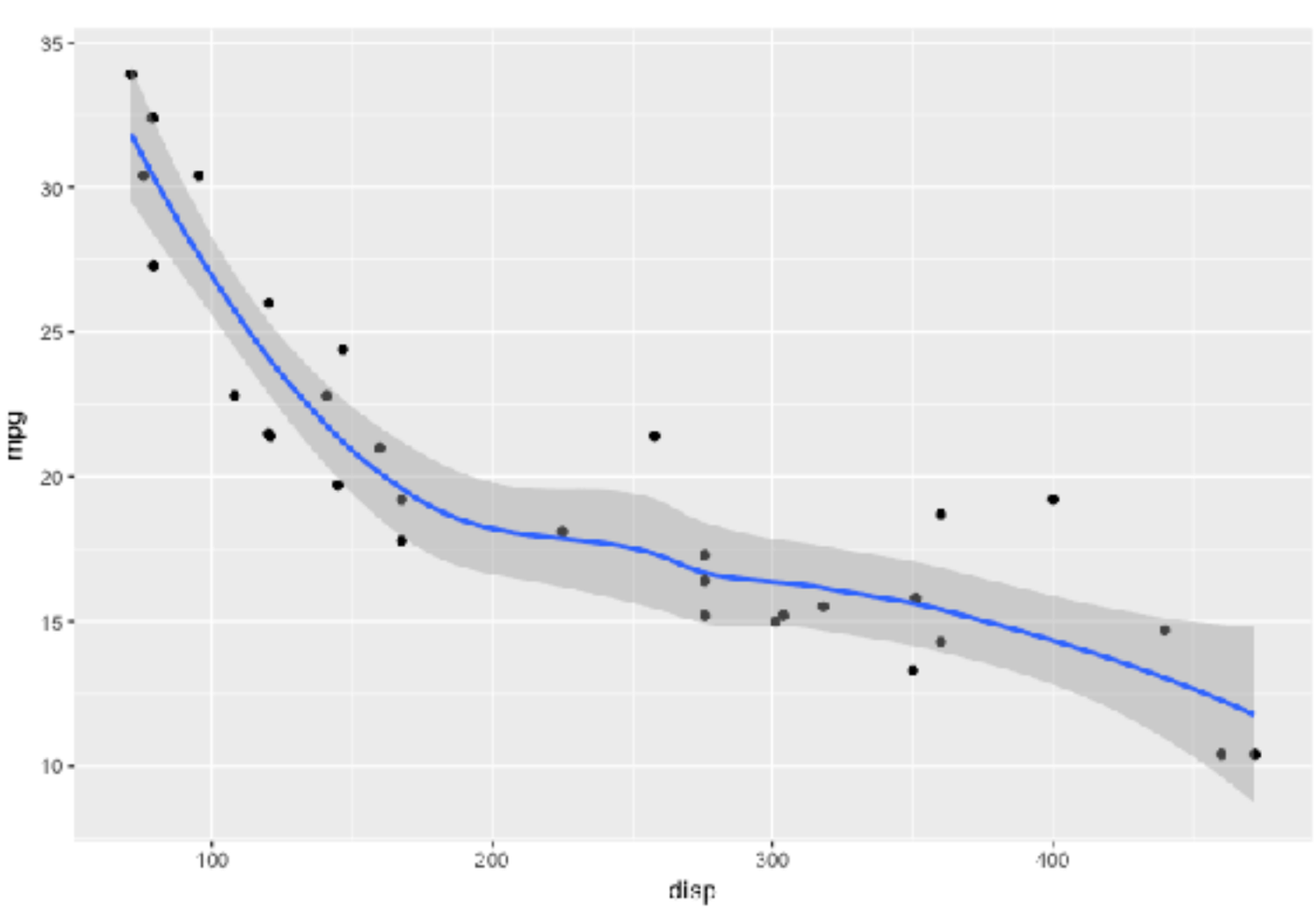
```
aov_2 <- aov(
  RT ~ as.factor(TestingRoom) * as.factor(Condition),
  data = experiment
)

summary(aov_2)

TukeyHSD(aov_2)
```

# Linear Regression

```
ggplot(data = mtcars) +
  geom_point(aes(x = disp, y = mpg)) +
  geom_smooth(aes(x = disp, y = mpg))
```



# Linear Regression

```
lm_mtcars <- lm(mpg ~ disp, data = mtcars)

summary(lm_mtcars)
```