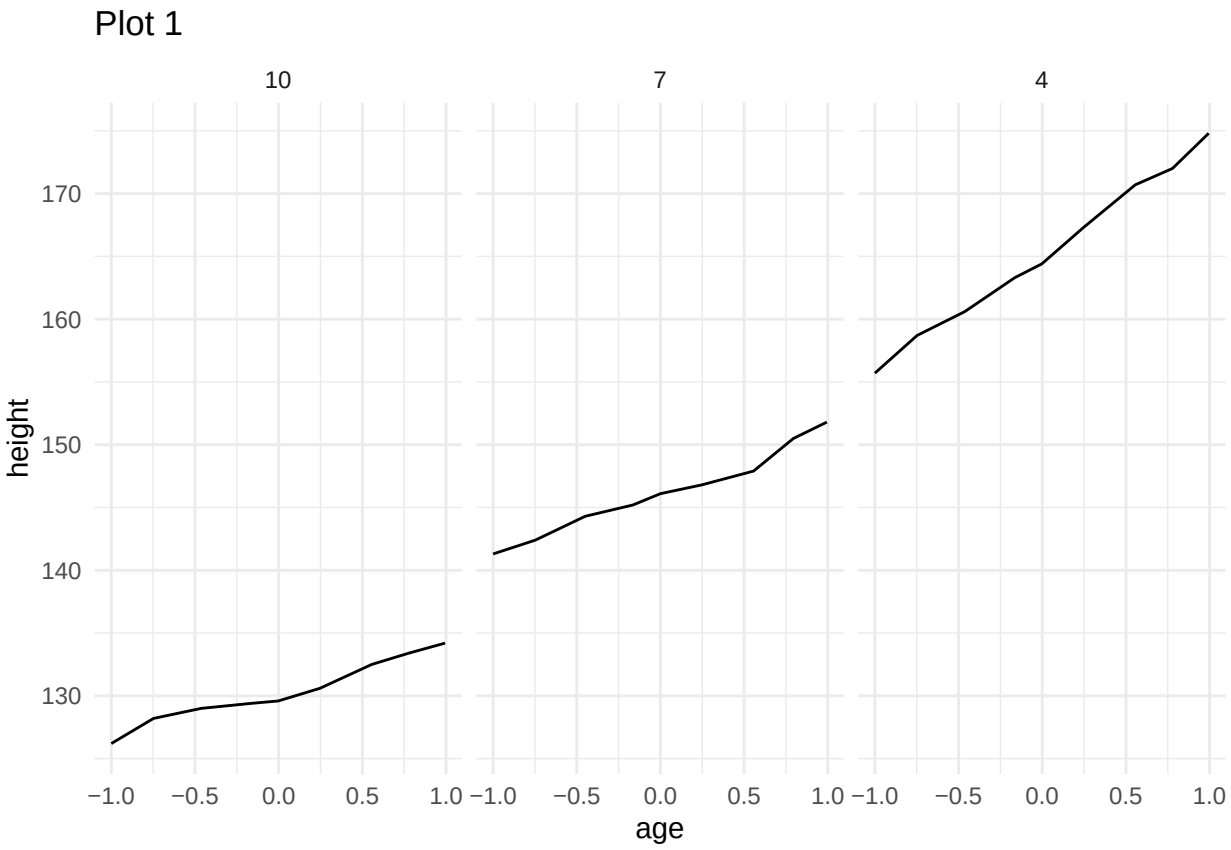
# Homework 2

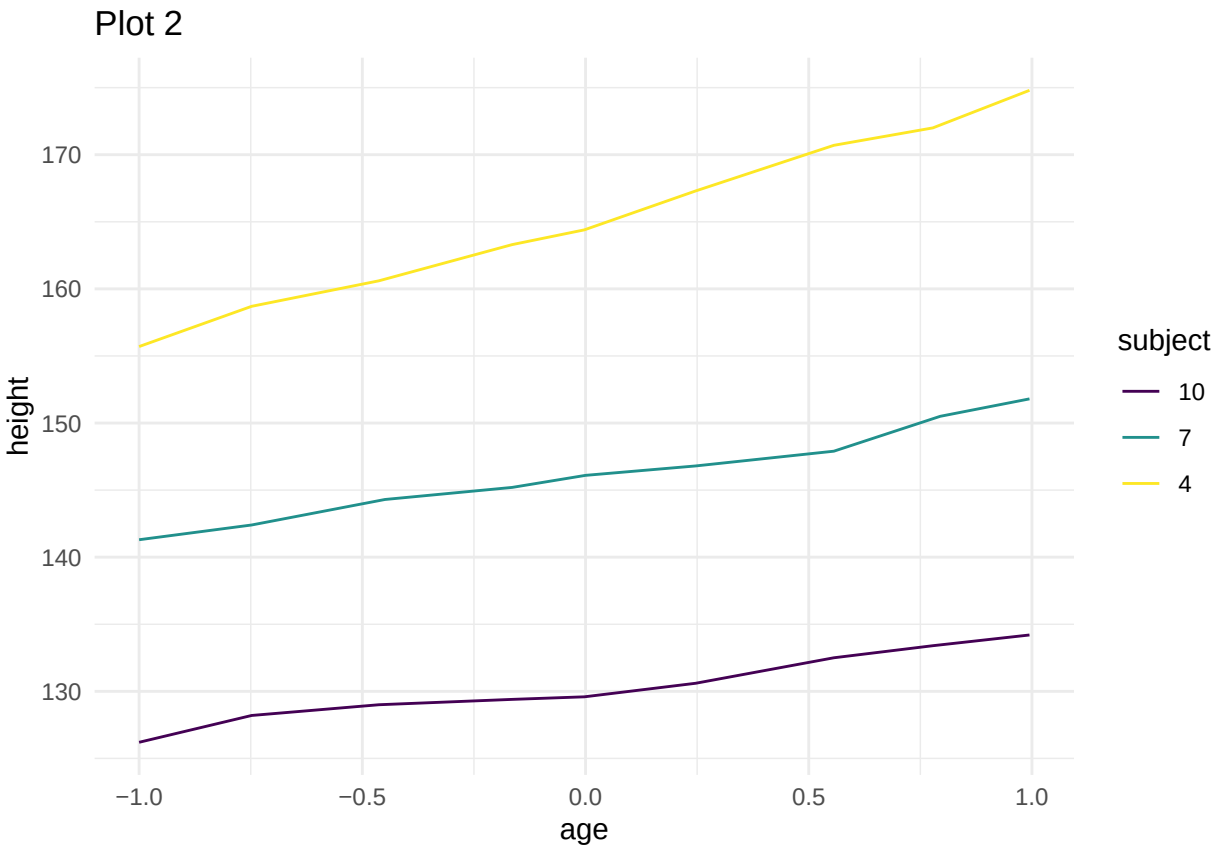
## Key

1. Install the `{nlme}` package
2. Load `{nlme}`, `{janitor}`, and the `{tidyverse}` packages in the "setup" chunk
3. Run the chunk below to prep some data from the `{nmle}` package for plotting

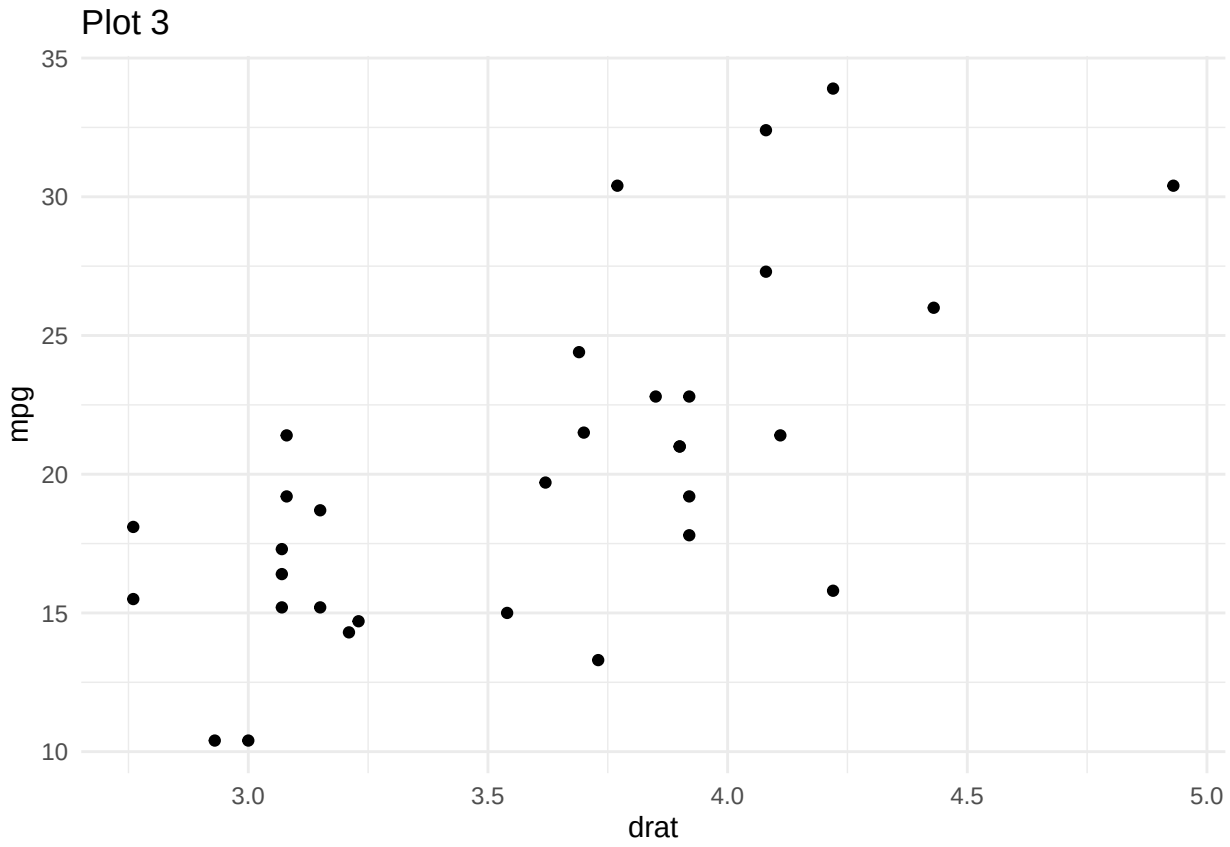
```
pd <- Oxboys %>%
  clean_names() %>%
  mutate(subject = factor(subject),
         occasion = factor(occasion)) %>%
  filter(subject == "10" | subject == "4" | subject == "7") %>%
  as_tibble()
```

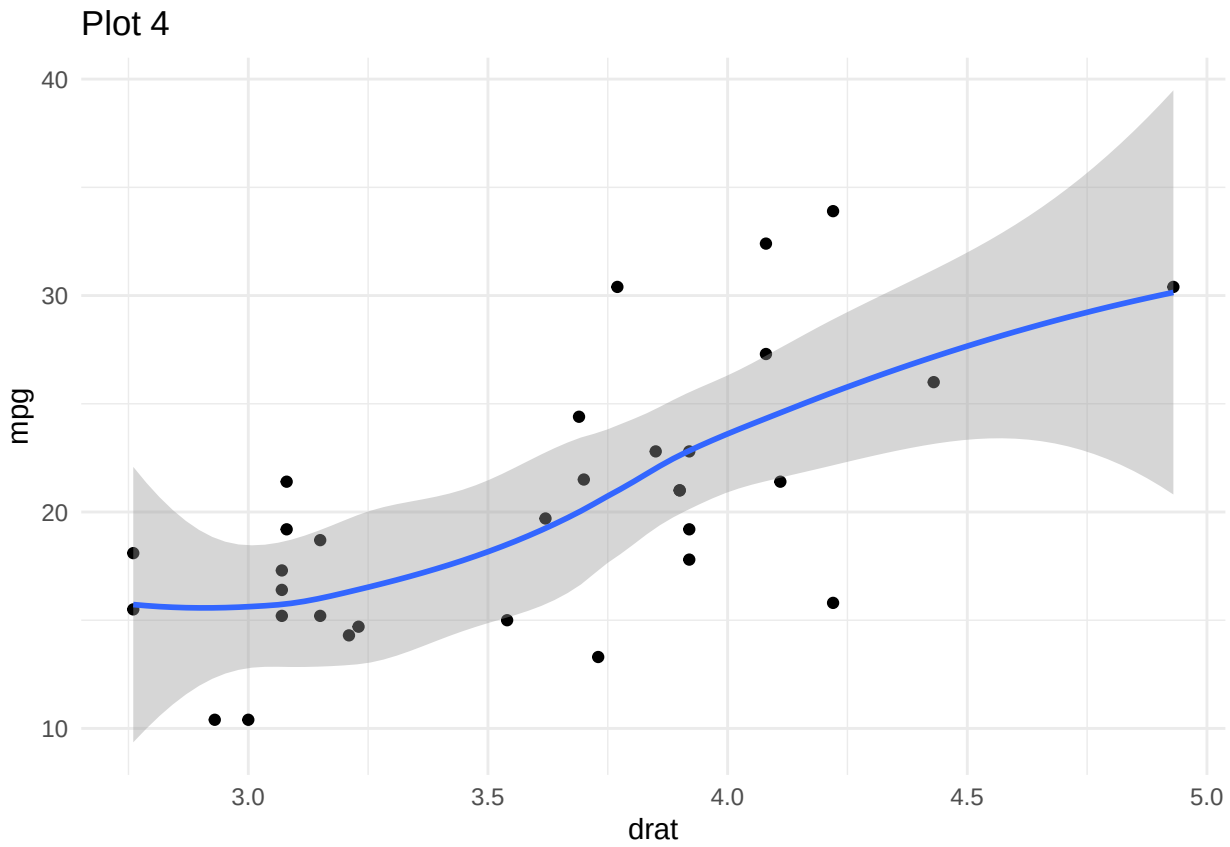
4. Reproduce the following two plots, using the *pd* data. You can use whatever theme you want (I used `theme_minimal()`), but all else should be the same.



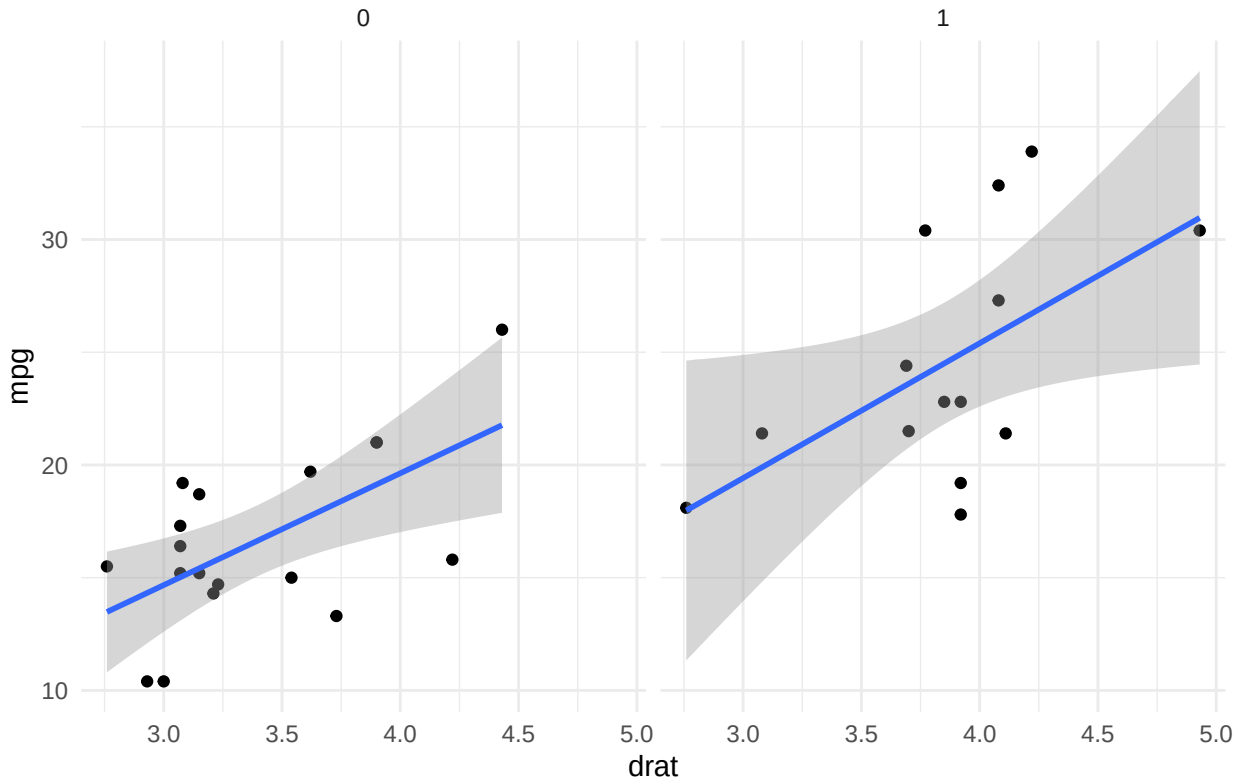

Plot 2
height
170
160
150
140
130
−1.0
−0.5
0.0
0.5
1.0
age
subject
10
7
4

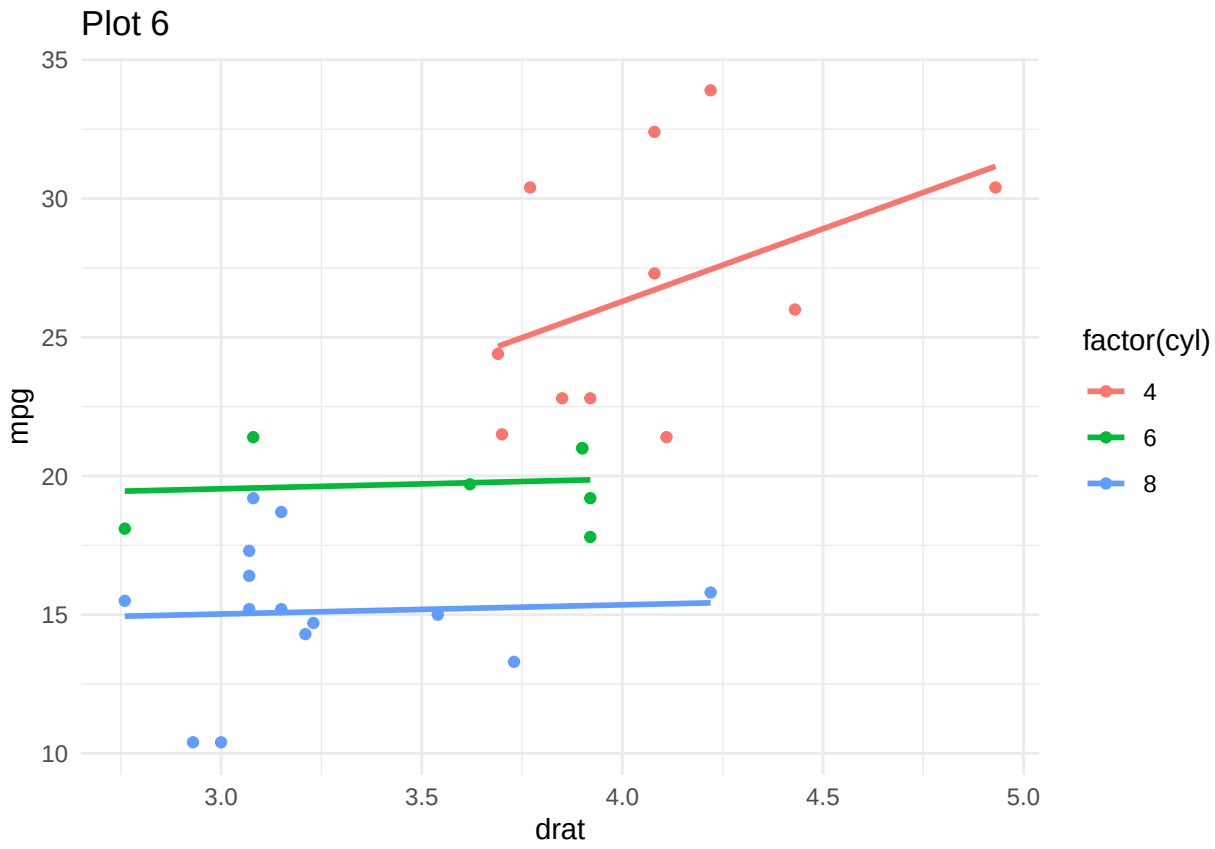
2. Use the *mtcars* dataset from base `R` to replicate the following plots. (Just type *mtcars* into the console to see the dataset).



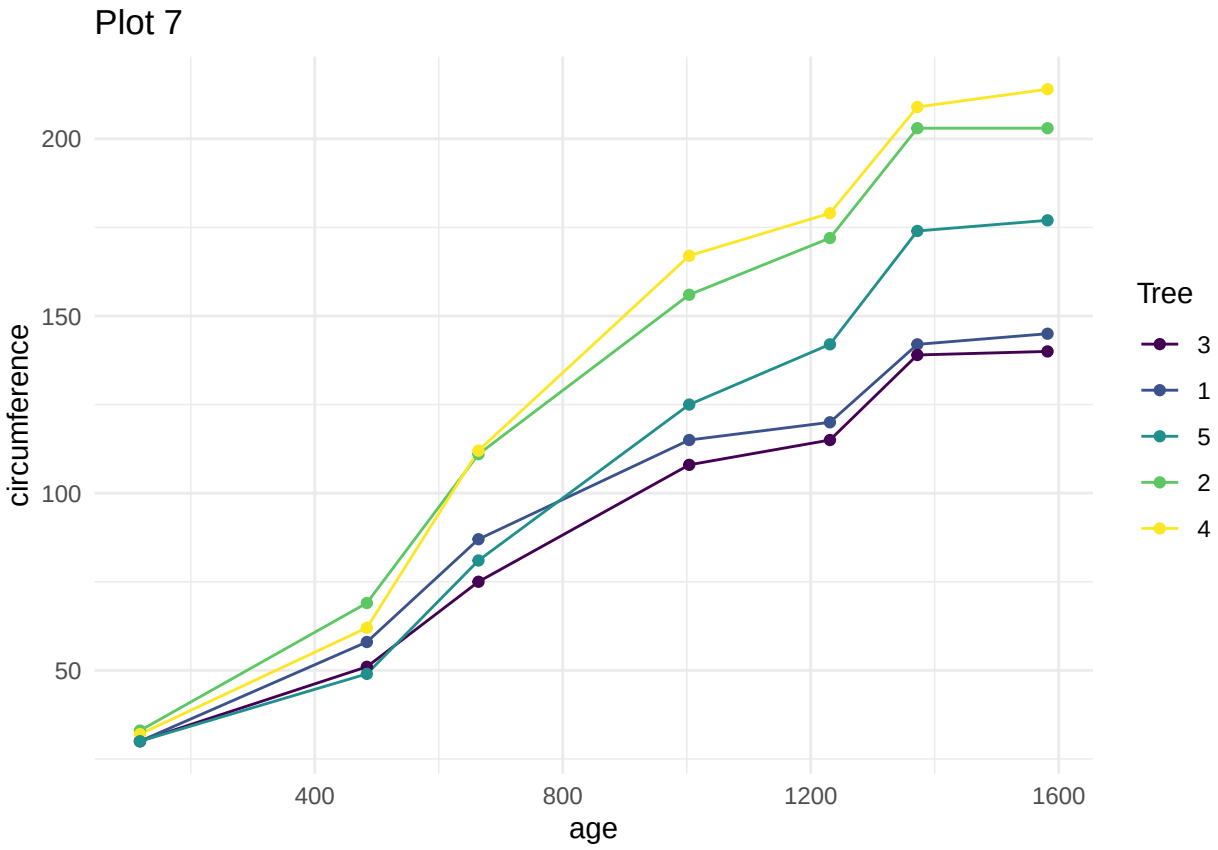

Plot 4
40
30
20
10
mpg
3.0
3.5
4.0
4.5
5.0
drat

Plot 5




Plot 6
35
30
25
20
15
10
mpg
3.0
3.5
4.0
4.5
5.0
drat
factor(cyl)
4
6
8

3. Use the *Orange* dataset, also part of base `R`, to replicate the following plots.



Orange Tree Growth
Gray line displays a linear model fit to the data.
Circumference of the Trunk (in mm)
200
150
100
50
400
800
1200
1600
Age of the Tree (in days)
Tree
3
1
5
2
4