Homework 05: Paint a plot, pick a package

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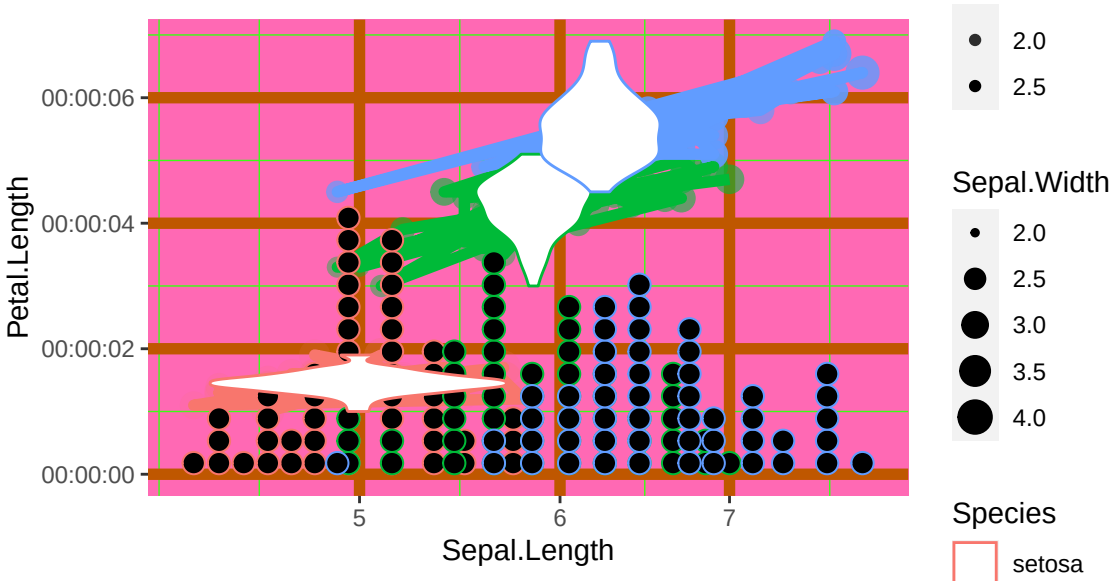
Load packages & data

```
library(tidyverse)
library(nflreadr)
library(ggridges)
```

Exercise 1

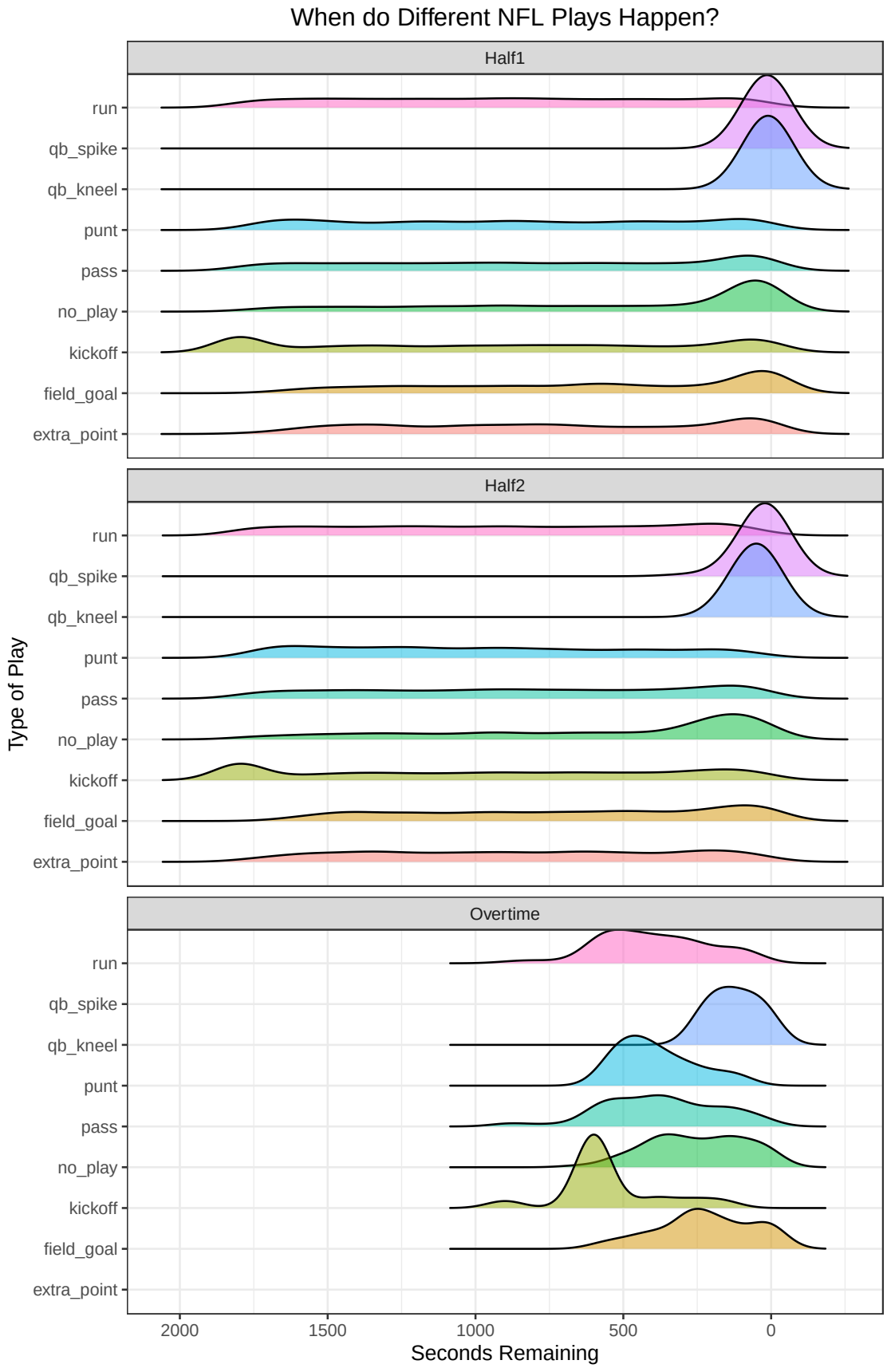
```
iris %>%
  ggplot(aes(x = Sepal.Length, y = Petal.Length, color = Species)) +
  geom_point(aes(size = Sepal.Width, alpha = Petal.Width)) +
  scale_x_log10() +
  scale_y_time() +
  geom_path(size = 2) +
  geom_dotplot(aes(y = Species)) +
  geom_violin() +
  theme(panel.background = element_rect(fill = "hotpink", color = "hotpink"),
        panel.grid.major = element_line(color = "#BF5700", size = 2),
        panel.grid.minor = element_line(color = "#39FF14"))
```



Exercise 2

This package is called `nflreadr`, which is hosted on CRAN. The packages enables people to read nflverse data, essentially giving them access to all of the play-by-play data from each recorded NFL season alongside draft picks, contract information and much much more. With this package, I was able to download the play-by-play information for the complete 2021 NFL season and make a graphic of the relative density of each type of play depending on how much time was left in the half (or overtime).

```
df <- load_pbp(2021)
df %>%
  filter(!is.na(play_type)) %>%
  ggplot(aes(x = half_seconds_remaining, y = play_type, fill = play_type)) +
  geom_density_ridges(alpha = 0.5) +
  scale_x_reverse() +
  facet_wrap(~ game_half, ncol = 1) +
  theme_bw() +
  guides(fill = "none") +
  labs(title = "When do Different NFL Plays Happen?", x = "Seconds Remaining",
       y = "Type of Play") +
  theme(plot.title = element_text(hjust = 0.5))
```


When do Different NFL Plays Happen?
Half1
Half2
Overtime
run
qb_spike
qb_kneel
punt
pass
no_play
kickoff
field_goal
extra_point
Type of Play
2000
1500
1000
500
0
Seconds Remaining