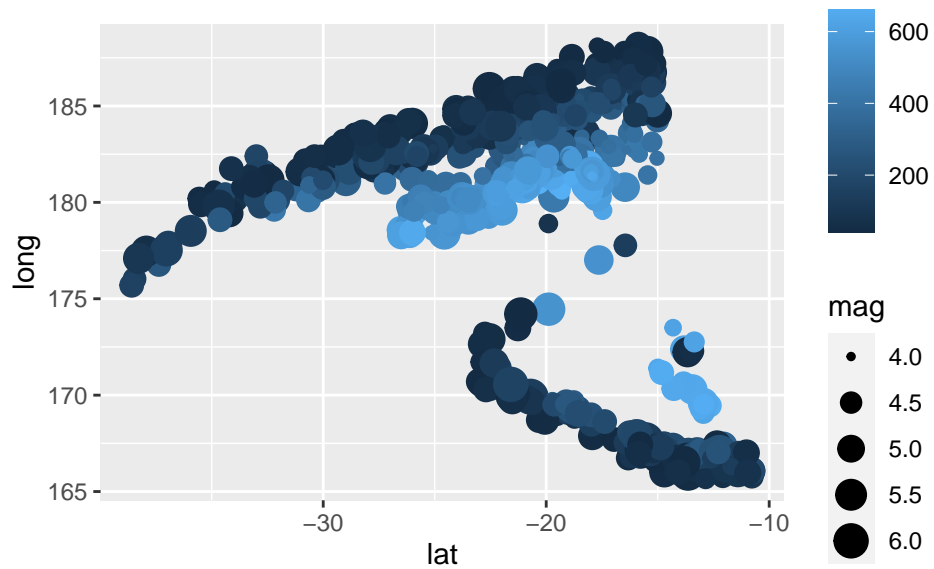# Homework #06

Robert Campbell
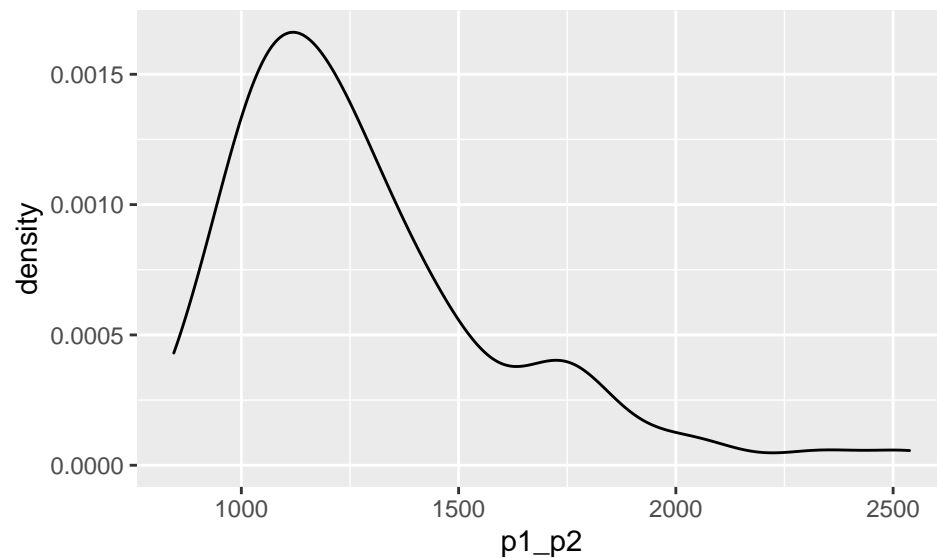
24 Mar 2021

Chapter 06

Problem 01

```
quakes %>% ggplot(aes(x=lat, y=long, color=depth, size=mag)) + geom_point()
```


Problem 04

```
fosdata::brake %>% ggplot(aes(x=p1_p2)) + geom_density()
```
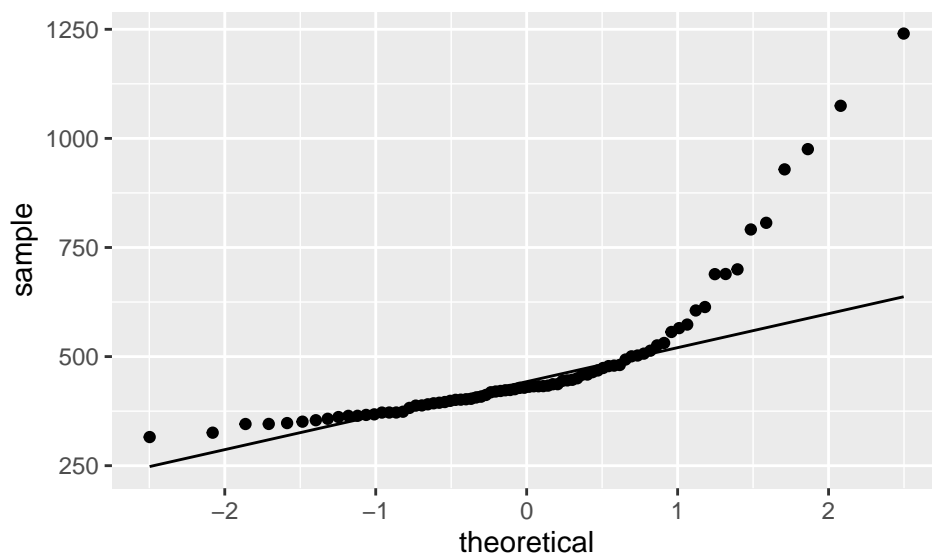
a. The data is skewed b. The most likely time appears to be about 1125ms

Problem 05

```
fosdata::brake %>% ggplot(aes(sample=latency_p1)) + geom_qq() + geom_qq_line()
```


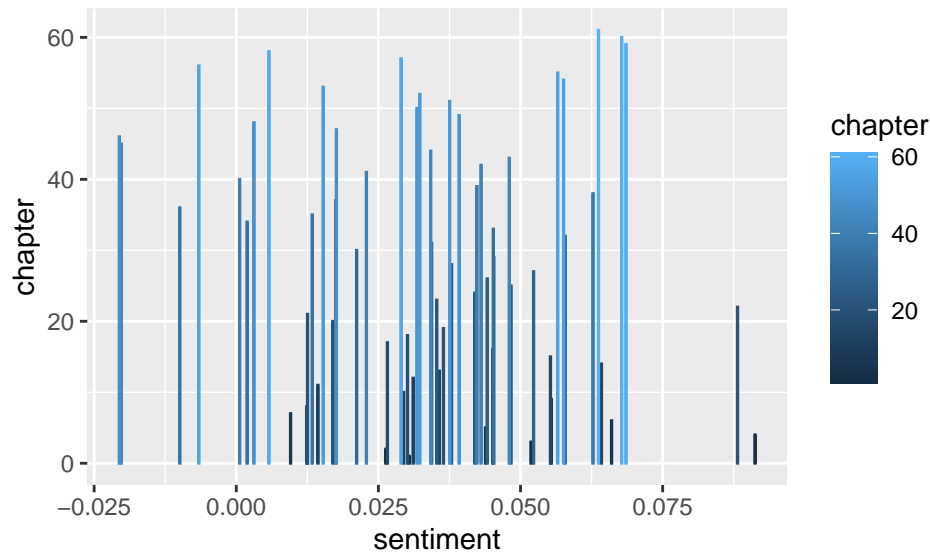The data appears to be normal, but right skewed

Problem 08

```
fosdata::austen %>% filter(novel=="Pride and Prejudice") %>% group_by(chapter) %>%
  summarize(sentiment = mean(sentiment_score)) %>%
  ggplot(aes(x=sentiment, y=chapter, color=chapter)) + geom_col()
```
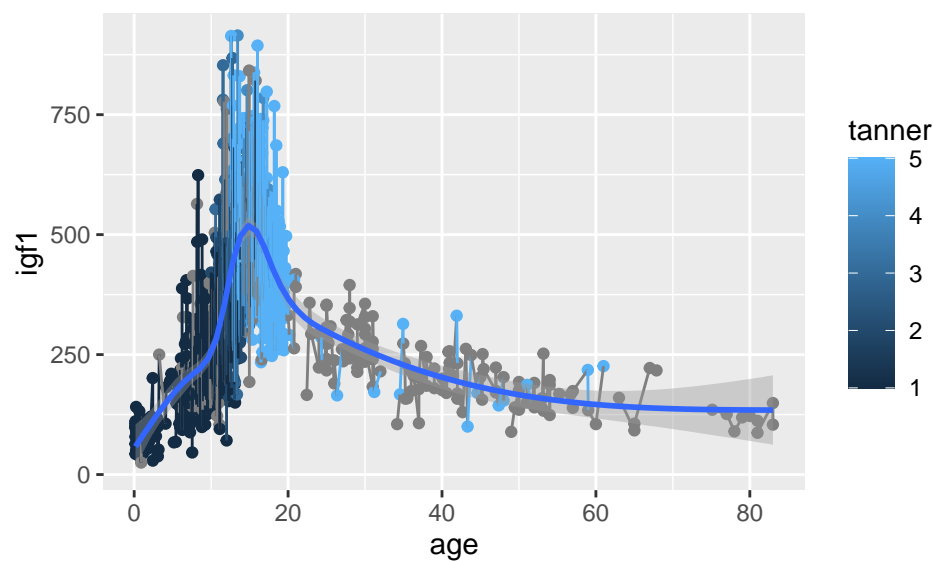
Problem 09

```
suppressWarnings(suppressMessages(ISwR::juul %>% ggplot(aes(x=age, y=igf1,color=tanner)) +
                    geom_point() + geom_line() + geom_smooth()))
```

```
## 'geom_smooth()' using method = 'gam' and formula 'y ~ s(x, bs = "cs")'

## Warning: Removed 326 rows containing non-finite values (stat_smooth).

## Warning: Removed 326 rows containing missing values (geom_point).

## Warning: Removed 5 row(s) containing missing values (geom_path).
```


c. Smooth seems to fit as the data does seem to more or less follow the trendline Line does not seem appropriate as the data jumps around that trendline in clusters
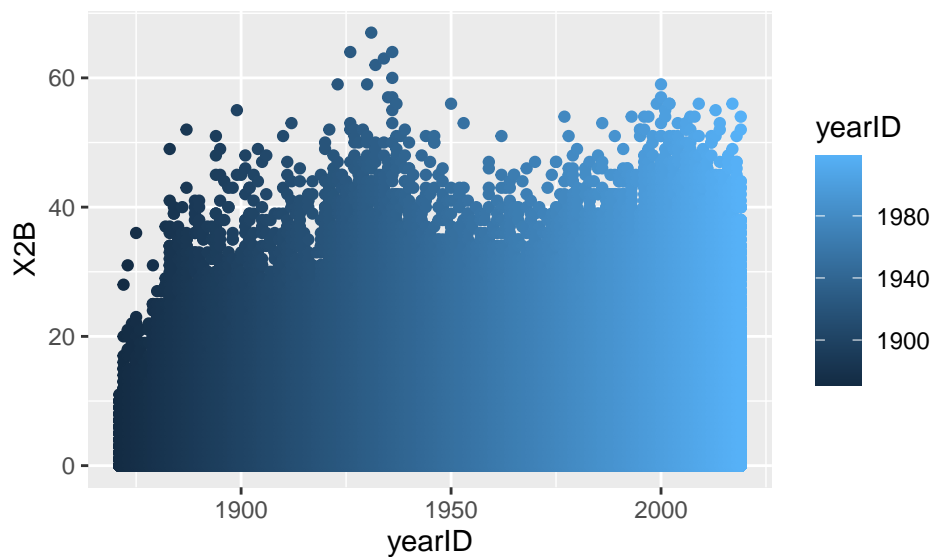
Problem 13

```
suppressWarnings(suppressMessages(fosdata::pres_election %>% mutate(party=factor(party)) %>%
  group_by(party, year) %>% summarize(votes=sum(candidatevotes,na.rm=TRUE)) %>%
  ggplot(aes(x=party, y=votes,fill=party)) + geom_col() + facet_wrap(vars(year))))
```
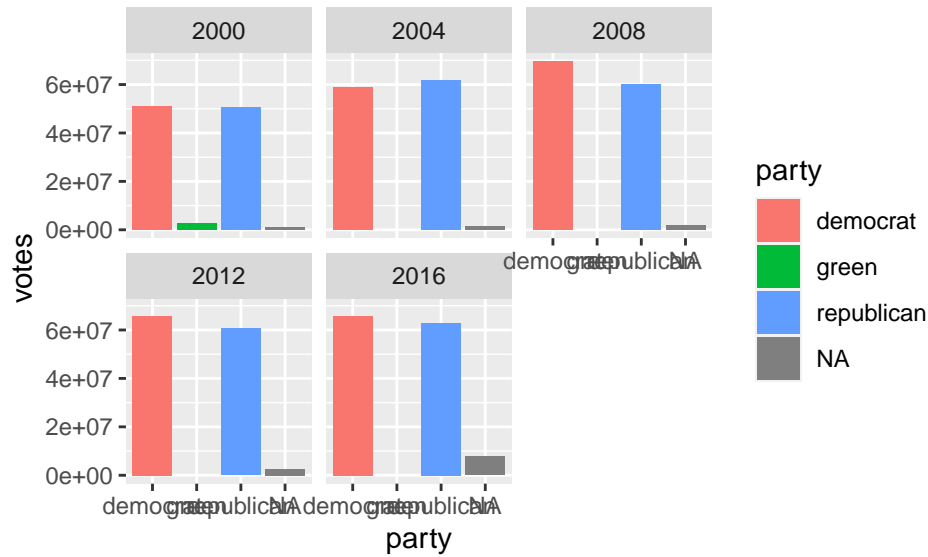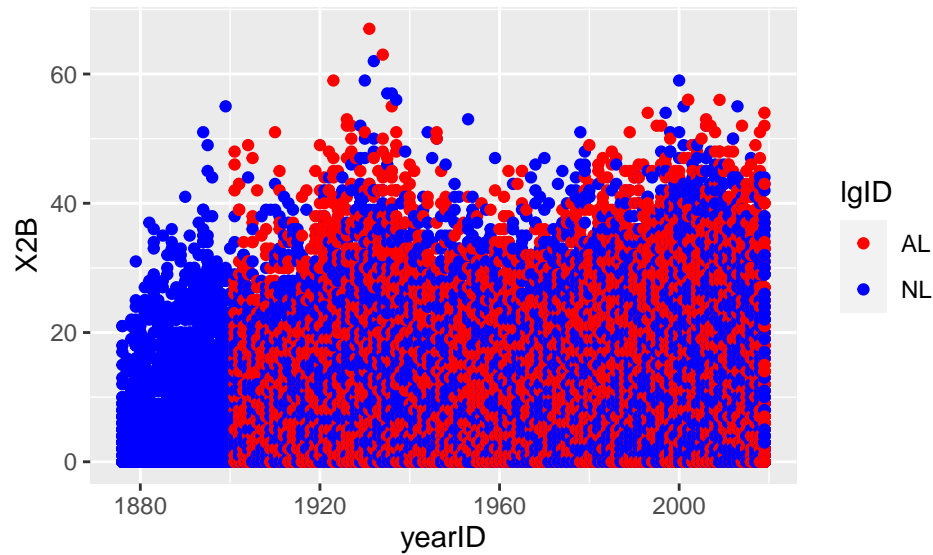

Problem 15

a.

```
Lahman::Batting %>% group_by(yearID) %>% ggplot(aes(x=yearID, y=X2B, color=yearID)) + geom_point()
```
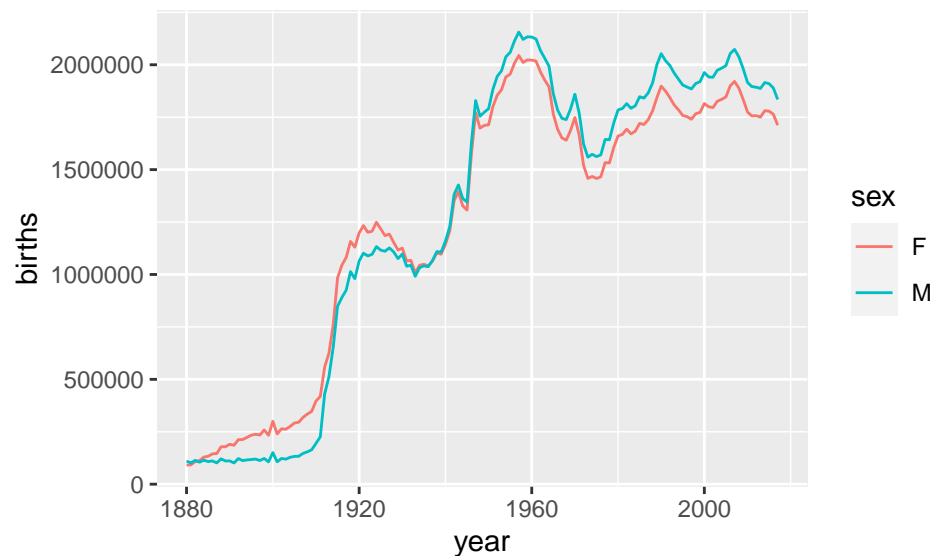

b.

```
suppressWarnings(suppressMessages(Lahman::Batting %>% group_by(yearID,lgID) %>%
  filter(lgID == c("AL", "NL")) %>% ggplot(aes(x=yearID, y=X2B, color=lgID)) +
    geom_point() + scale_color_manual(values = c("red1","blue"))))
```
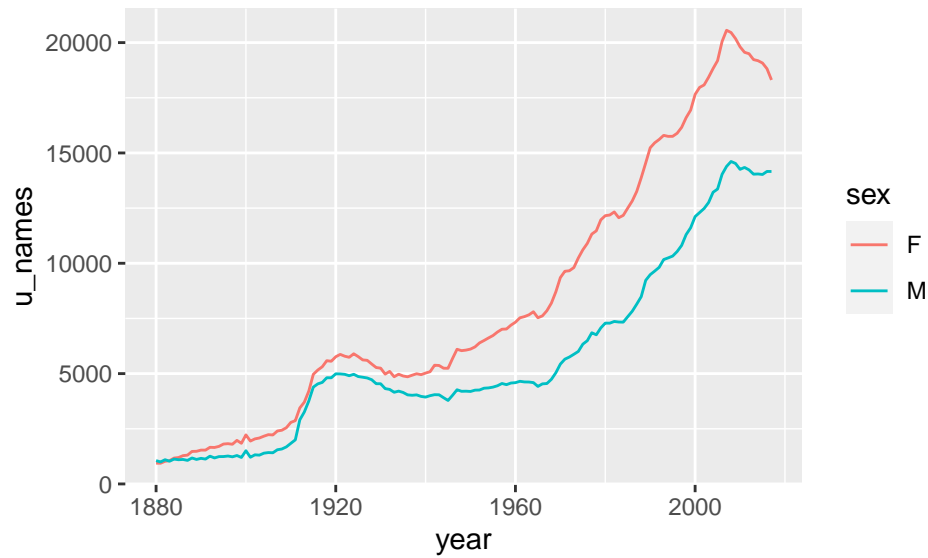

Problem 19

```
suppressWarnings(suppressMessages(babynames %>% group_by(year, sex) %>% summarize(births = sum(n)) %>%
  ggplot(aes(x=year, y=births, color=sex)) + geom_line()))
```
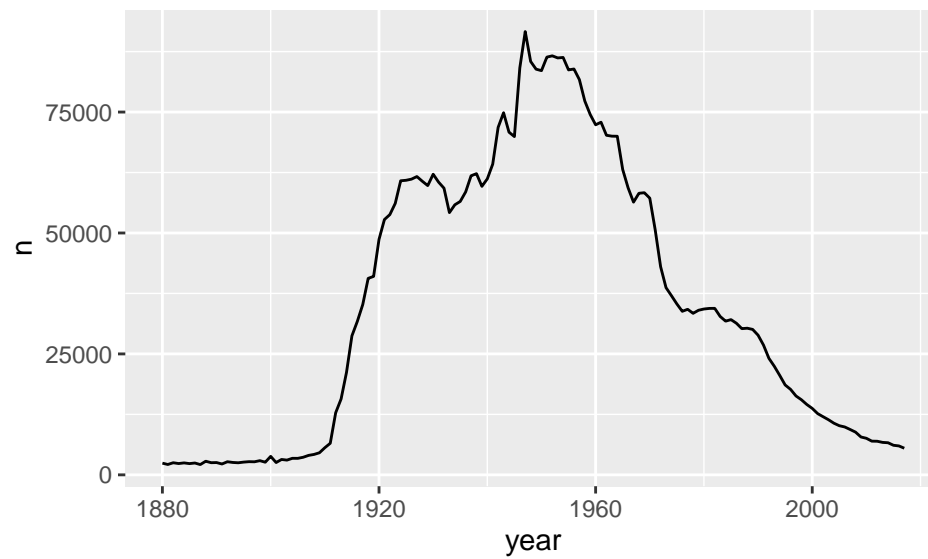

Problem 20

```
suppressWarnings(suppressMessages(babynames %>% group_by(year, sex) %>%
  summarize(u_names = n()) %>% ggplot(aes(x=year, y=u_names, color=sex)) +
    geom_line()))
```
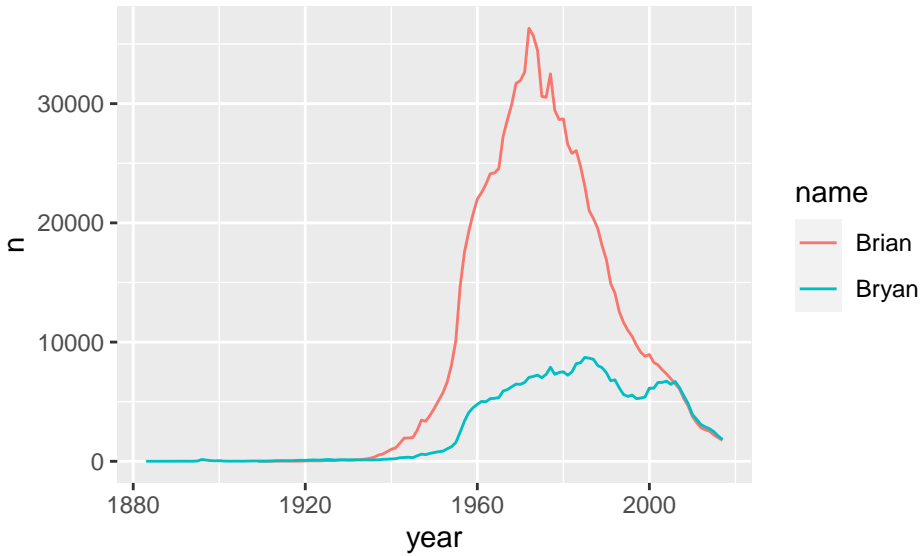
Problem 21

```
babynames %>% filter(name %in% "Robert", sex=="M") %>%
  ggplot(aes(x=year,y=n)) + geom_line()
```
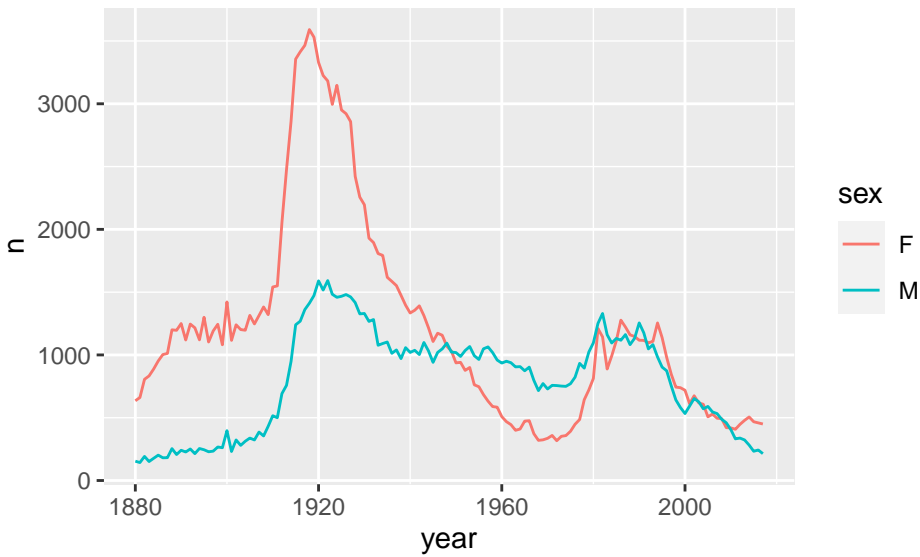

Problem 22

```
suppressWarnings(suppressMessages(babynames %>% filter(name %in% c("Bryan", "Brian"), sex=="M") %>%
  ggplot(aes(x=year,y=n, color=name)) + geom_line()))
```
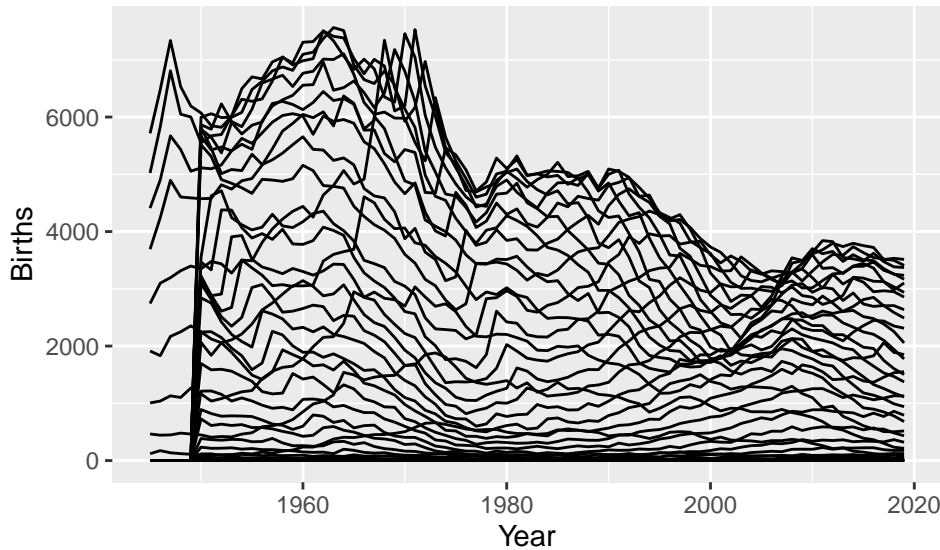
Problem 23

```
suppressWarnings(suppressMessages(babynames %>% filter(name %in% "Jessie") %>%
  ggplot(aes(x=year,y=n, color=sex)) + geom_line()))
```


- More male than female (~1950-1980) - More female than male (prior to 1950) - About the same (1980 and later)

Problem 26

a.

b.

```
tidy_20<-tidy_data %>% filter(age == 20)
tidy_30<-tidy_data %>% filter(age==30)
tidy_data %>% group_by(age,Year) %>% ggplot(aes(x=Year,y=Births, group=age)) +
  geom_line() +geom_line(data=tidy_20, aes(x=Year,y=Births),color='red')+
geom_line(data=tidy_30, aes(x=Year,y=Births),color='blue') + labs(title="Scotland Births Over Time by M
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, : font
## width unknown for character 0x9

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## font width unknown for character 0x9
```
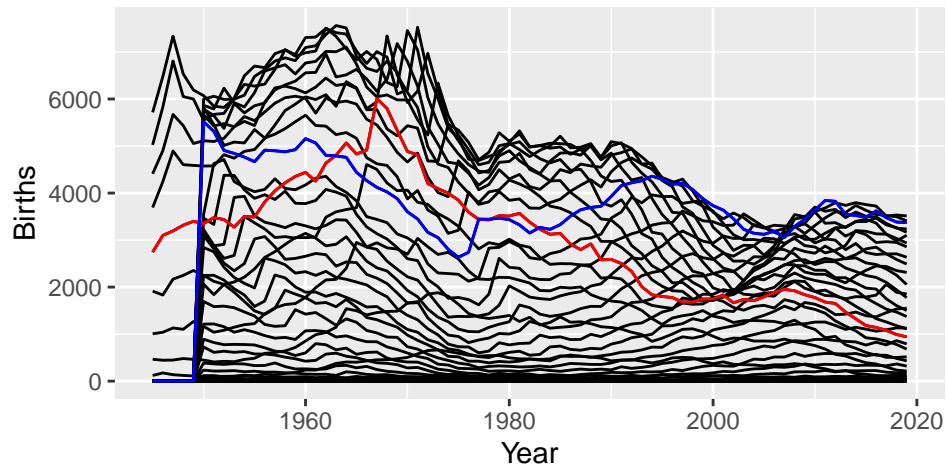
Scotland Births Over Time by Mother's Age
Red: Age 20 Blue: Age 30

Problem 28