lab3-example

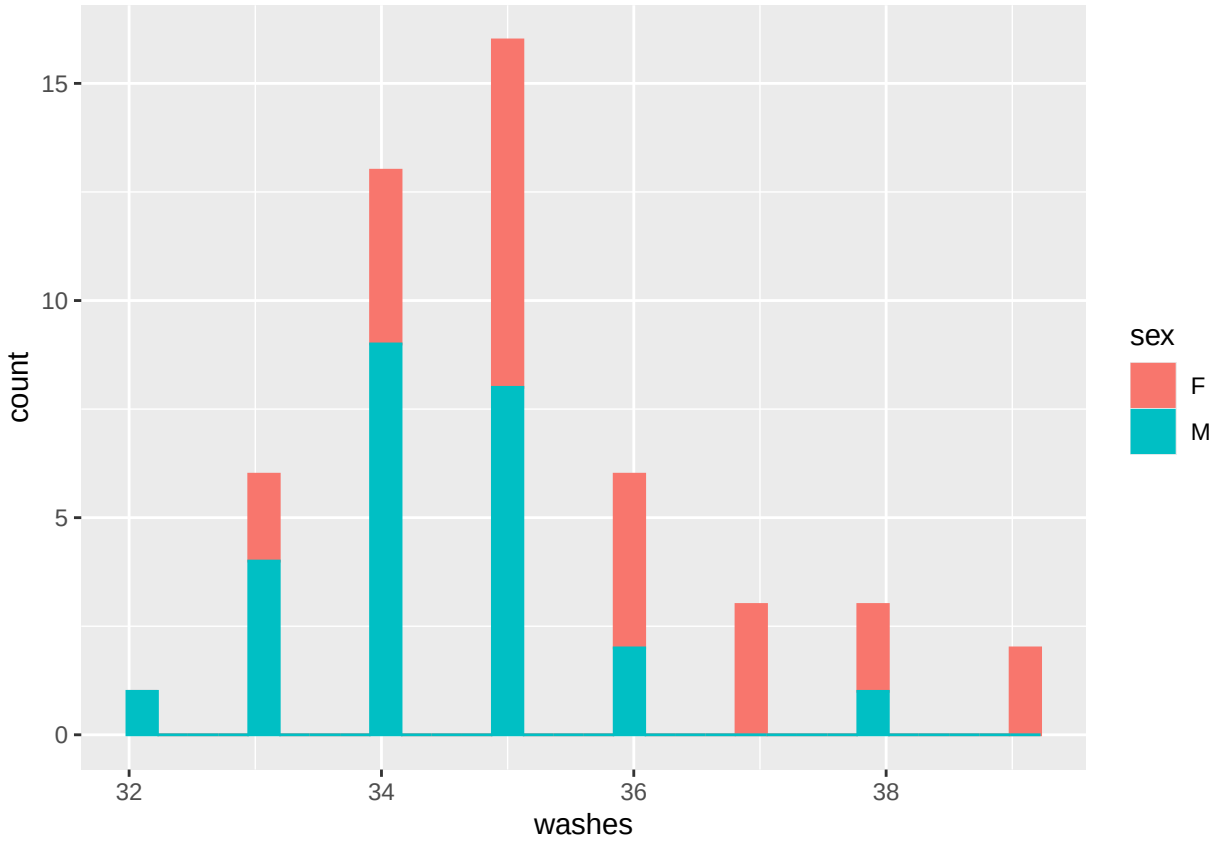
```
library(tidyverse)
library(ggplot2)

data <- read_csv("HandWashingData.csv")
```

```
data <- data %>% group_by(sex) %>% mutate(count=n(), means=mean(washes), sds=sd(washes),
ses=sds/sqrt(count), cis=1.96*ses)
```

```
summary_table <- data %>% summarize(count=n(), means=mean(washes), sds=sd(washes),
ses=sds/sqrt(count), cis=1.96*ses)
```

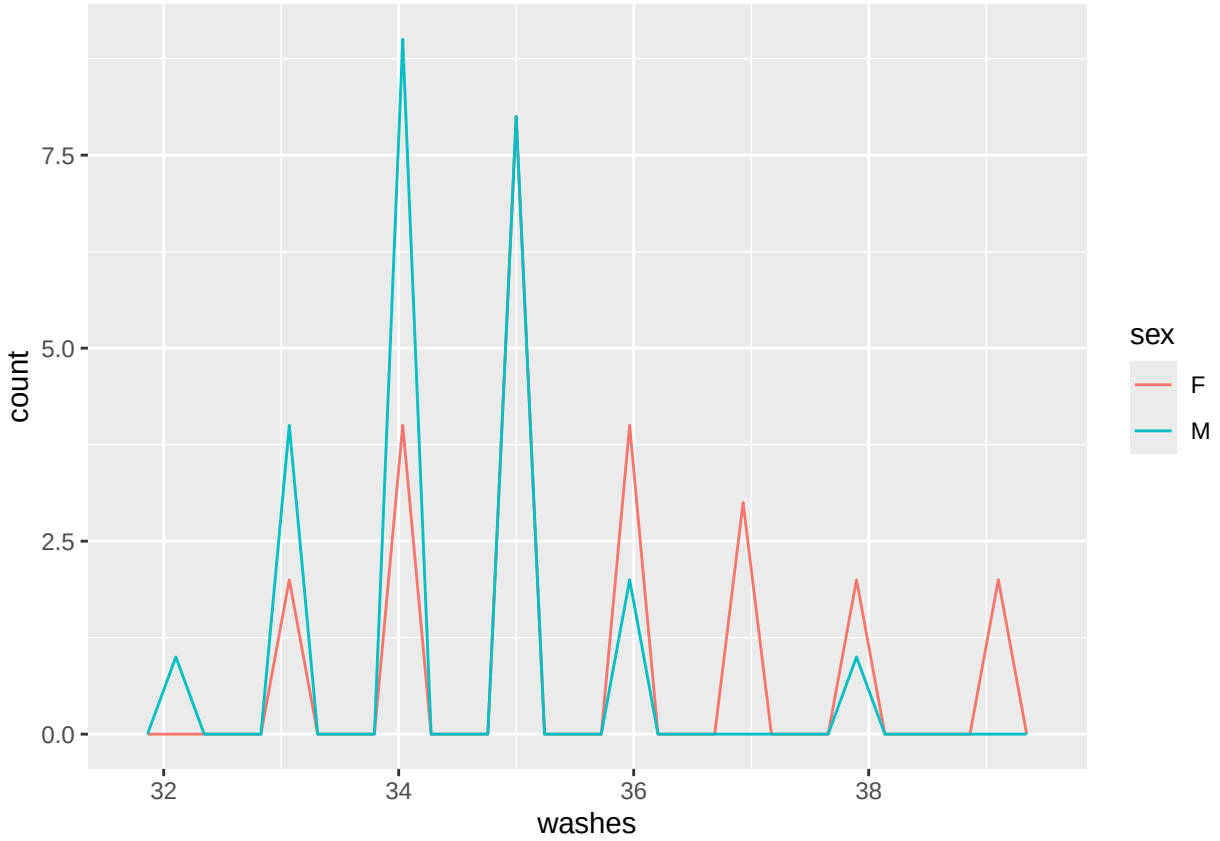
```
plot <- ggplot(data, aes(x=washes, color=sex, fill=sex))

plot + geom_histogram()
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

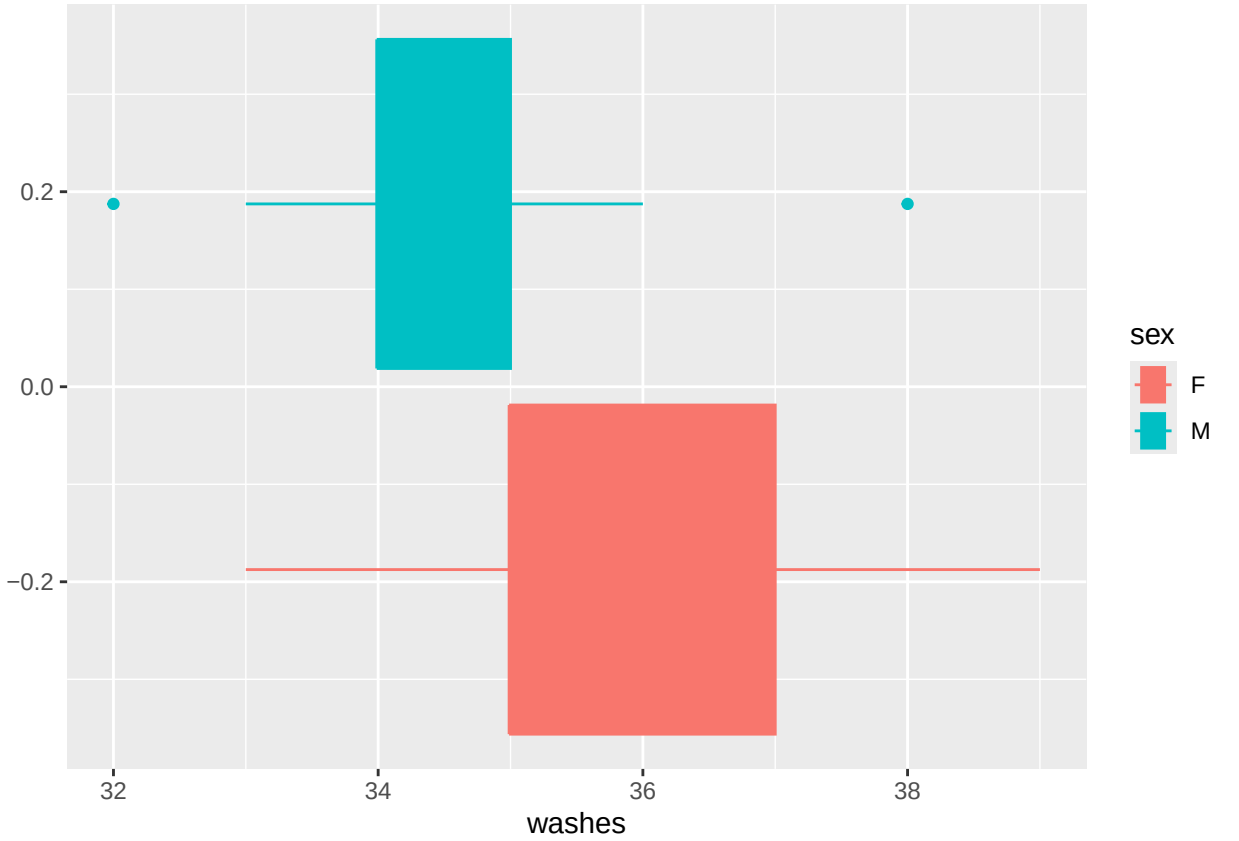



```
plot + geom_freqpoly()
```

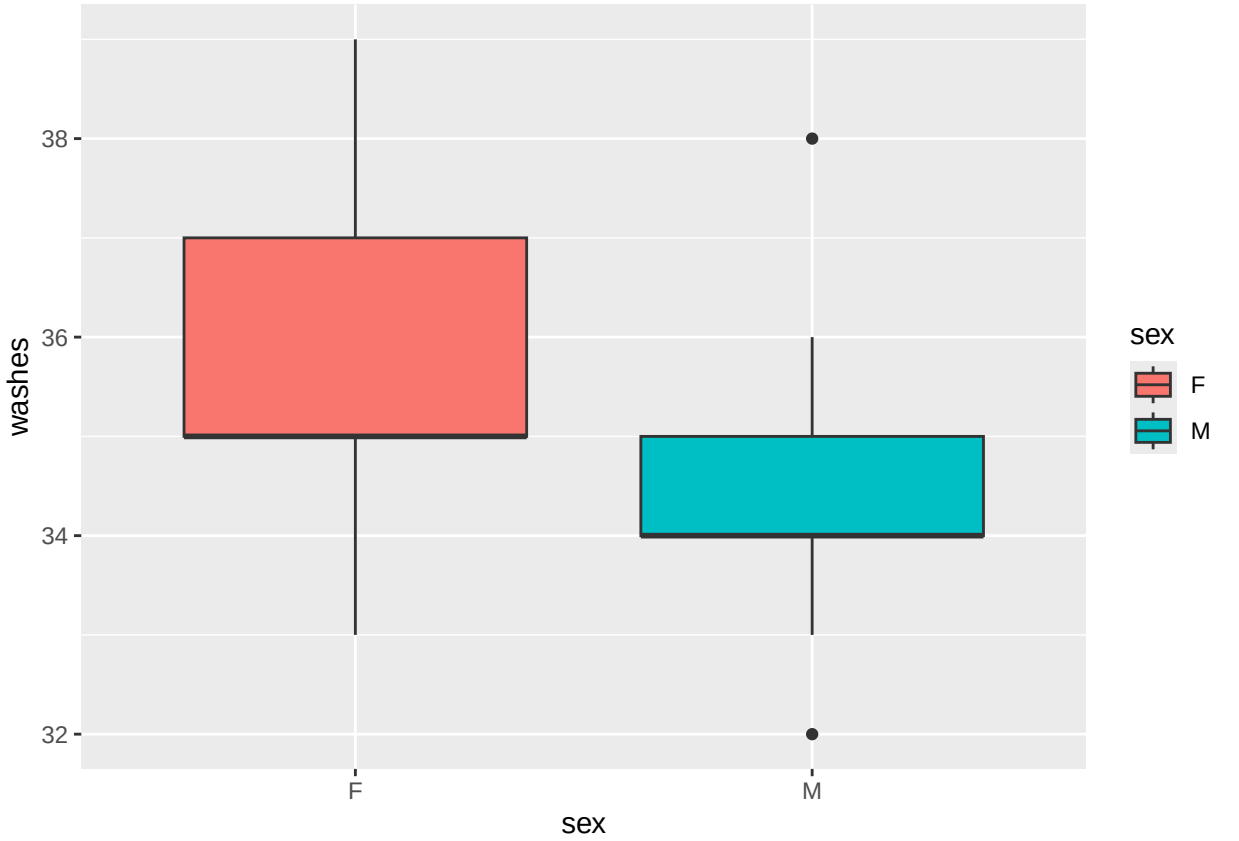
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



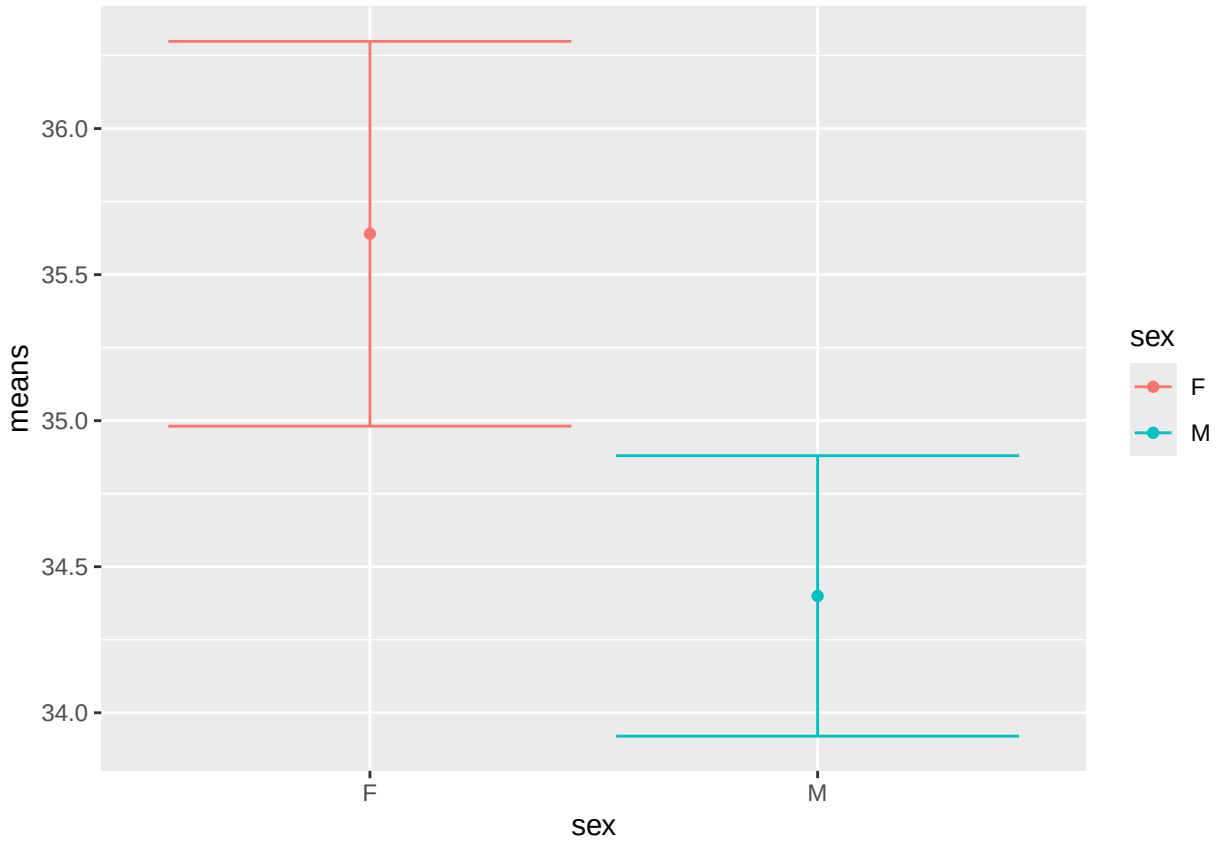

```
plot + geom_boxplot()
```




```
ggplot(data, aes(x=sex, y=washes, fill=sex)) + geom_boxplot()
```




```
ggplot(summary_table, aes(x=sex, y=means, color=sex)) + geom_point() + geom_errorbar(aes(ymin=means-cis
```


36.0
35.5
35.0
34.5
34.0
means
F
M
sex
sex
F
M