Programming in R Assignment

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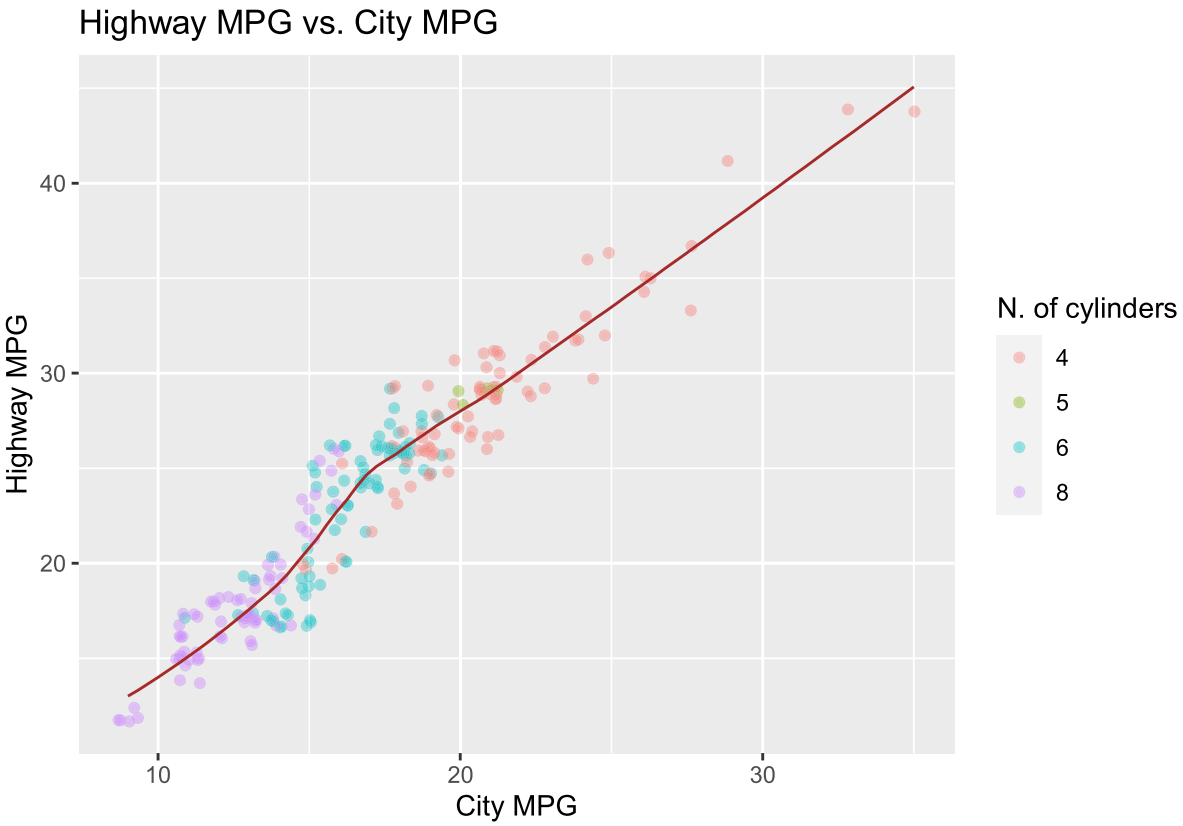
Including Plots

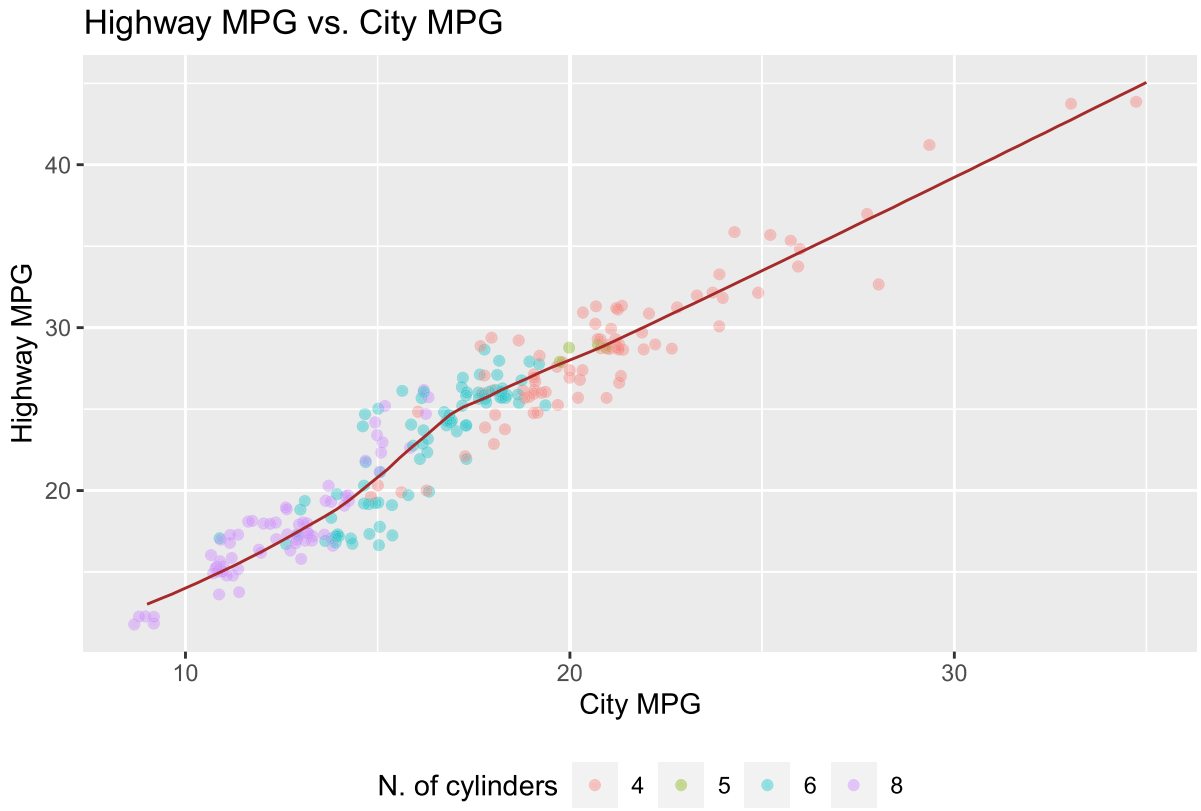
Recreate the scatterplot of the lab 1 exercise of class 1:

```
ggplot(data = mpg,
       mapping = aes(x = cty, y = hwy, color = as.factor(cyl))) +
  geom_jitter(alpha = 0.4) +
  geom_smooth(color = "brown",
              se = FALSE,
              linewidth = 0.5) +
  labs(
    x = "City MPG",
    y = "Highway MPG",
    title = "Highway MPG vs. City MPG",
    color = "N. of cylinders"
  )
```



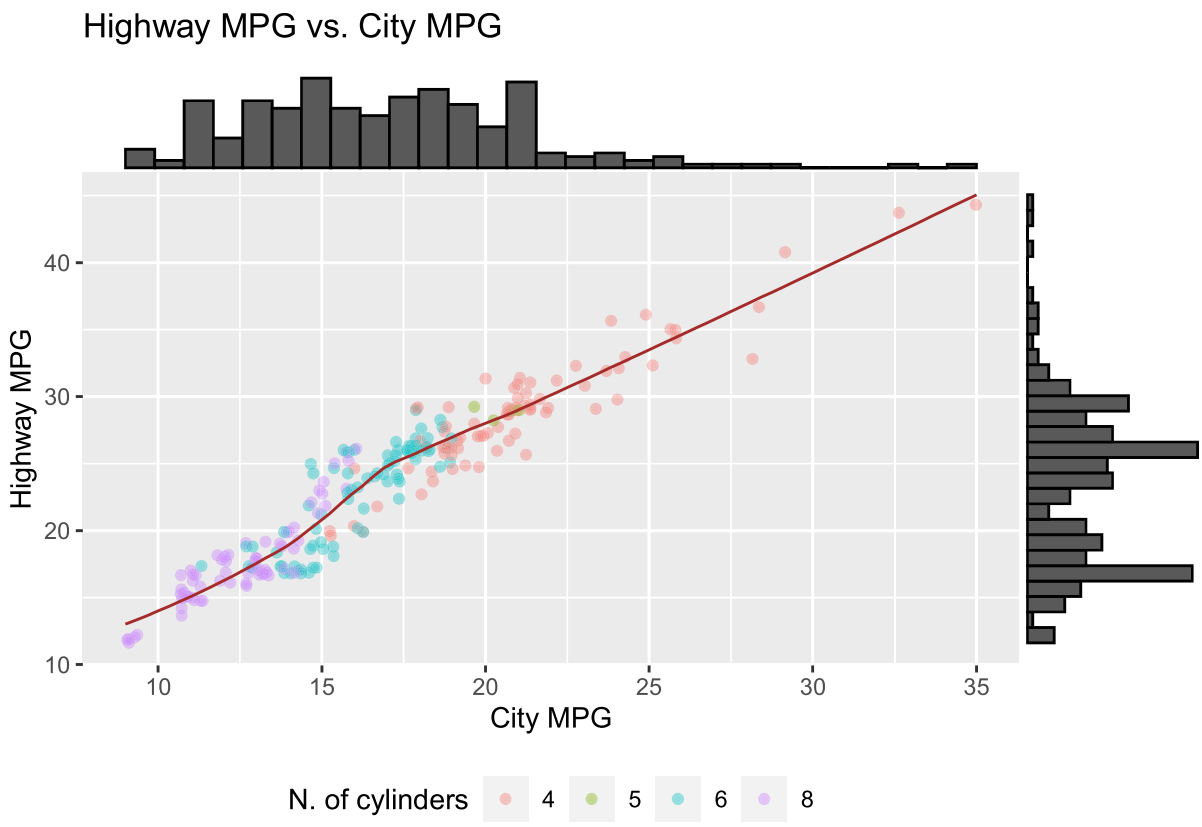
Move the position of the legend to the bottom of the plot

```
ggplot(data = mpg,
       mapping = aes(x = cty, y = hwy, color = as.factor(cyl))) +
  geom_jitter(alpha = 0.4) +
  geom_smooth(color = "brown",
              se = FALSE,
              linewidth = 0.5) +
  labs(
    x = "City MPG",
    y = "Highway MPG",
    title = "Highway MPG vs. City MPG",
    color = "N. of cylinders"
  )+ theme(legend.position="bottom")
```



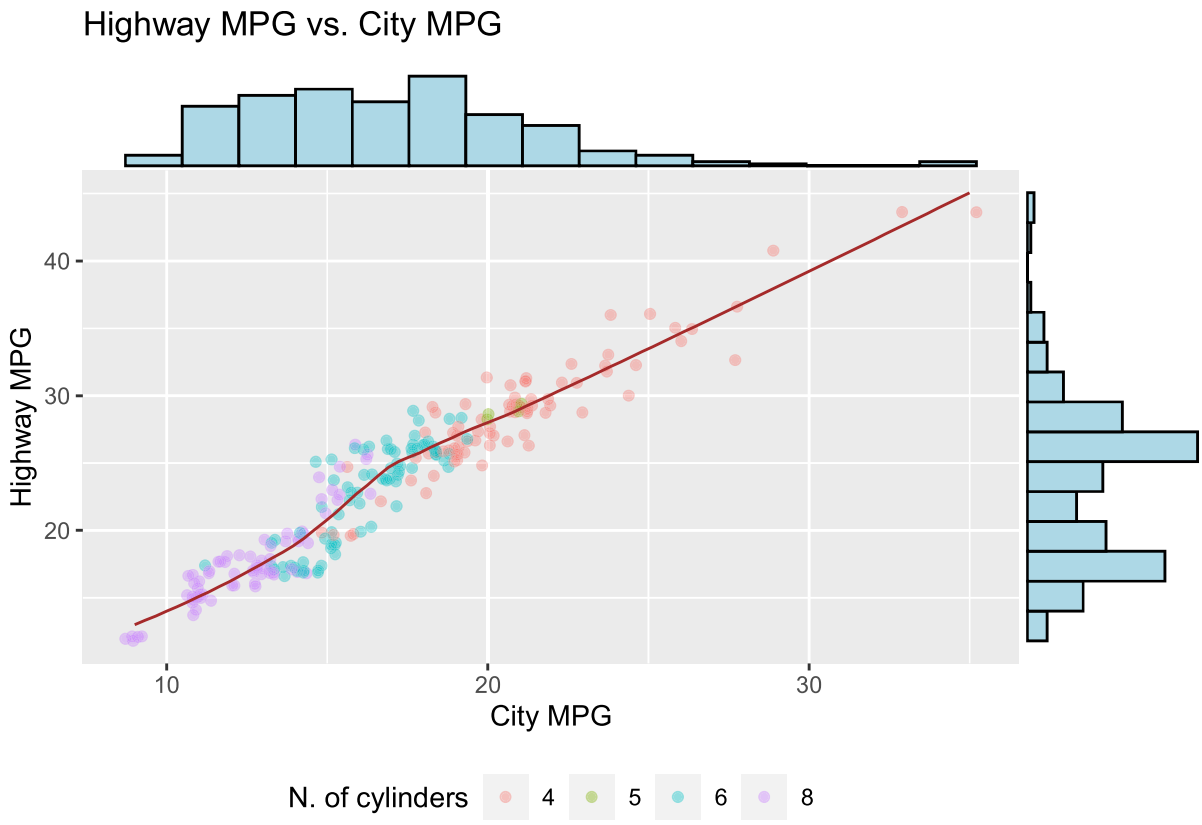
Use the ggMarginal function from the ggExtra library to add marginal histograms for both the x and y axis of your scatterplot

```
p <- ggplot(data = mpg,
       mapping = aes(x = cty, y = hwy, color = as.factor(cyl))) +
  geom_jitter(alpha = 0.4) +
  geom_smooth(color = "brown",
              se = FALSE,
              linewidth = 0.5) +
  labs(
    x = "City MPG",
    y = "Highway MPG",
    title = "Highway MPG vs. City MPG",
    color = "N. of cylinders"
  )+ theme(legend.position="bottom")
ggMarginal(p,type="histogram")
```



Configure both marginal histograms to have 16 bins and to be lightblue in color

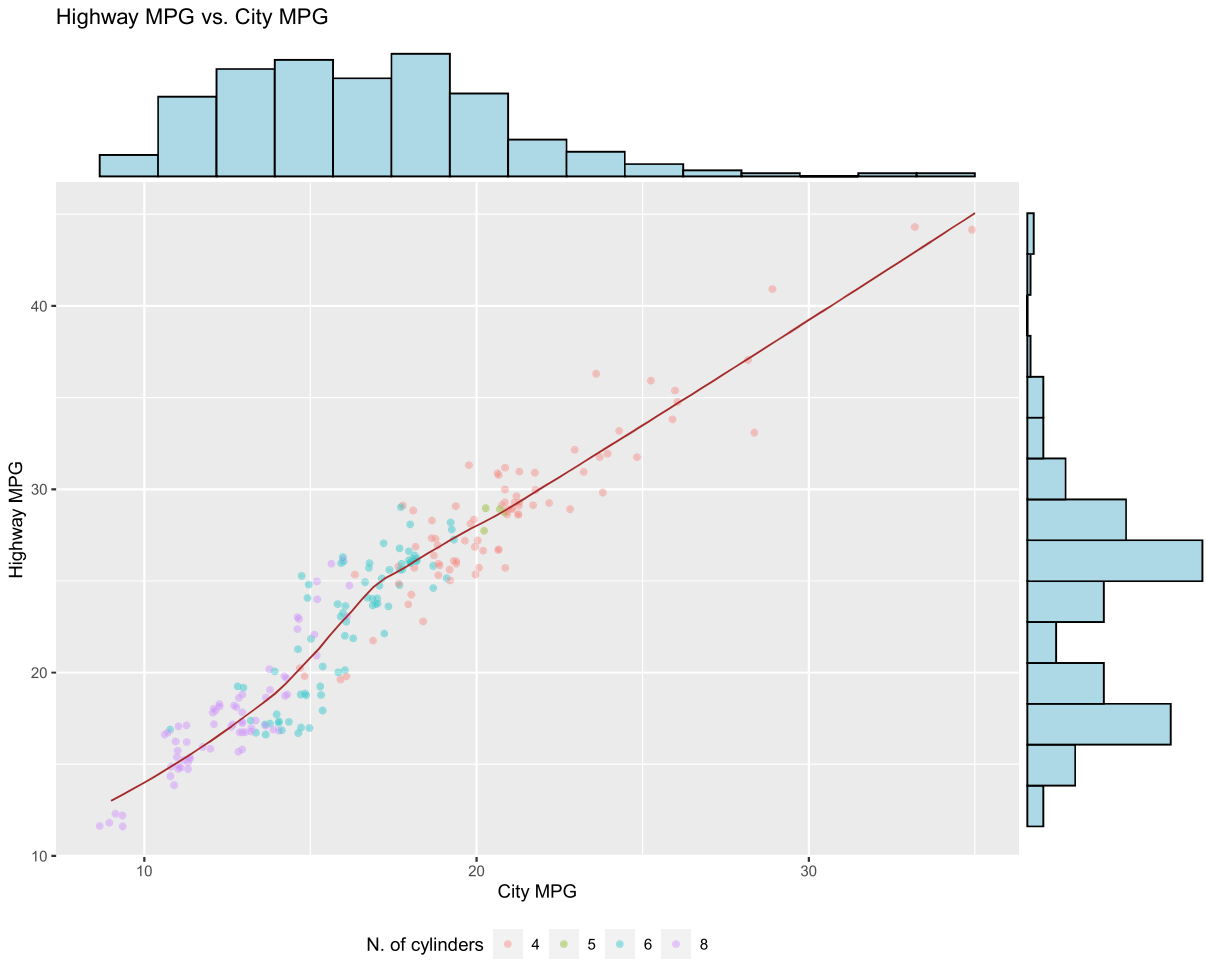
```
p <- ggplot(data = mpg,
       mapping = aes(x = cty, y = hwy, color = as.factor(cyl))) +
  geom_jitter(alpha = 0.4) +
  geom_smooth(color = "brown",
              se = FALSE,
              linewidth = 0.5) +
  labs(
    x = "City MPG",
    y = "Highway MPG",
    title = "Highway MPG vs. City MPG",
    color = "N. of cylinders"
  )+ theme(legend.position="bottom")
ggMarginal(p,type="histogram",bins=16,fill="lightblue")
```



Make the size of the plot 10in x 8in

Added `fig.dim=c(10,8)` to change the size of the plot making width 10 and height 8

```
p <- ggplot(data = mpg,
       mapping = aes(x = cty, y = hwy, color = as.factor(cyl))) +
  geom_jitter(alpha = 0.4) +
  geom_smooth(color = "brown",
              se = FALSE,
              linewidth = 0.5) +
  labs(
    x = "City MPG",
    y = "Highway MPG",
    title = "Highway MPG vs. City MPG",
    color = "N. of cylinders"
  )+ theme(legend.position="bottom")
ggMarginal(p,type="histogram",bins=16,fill="lightblue")
```


Highway MPG vs. City MPG
Highway MPG
City MPG
10
20
30
40
N. of cylinders
4
5
6
8