

Week 2 Lab

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Packages

We will need the following package for this lab:

```
library(ggplot2)
```

Data

For this lab, we will be using the data set `msleep`. We will explore this data set in Problem 1.

Problem 1

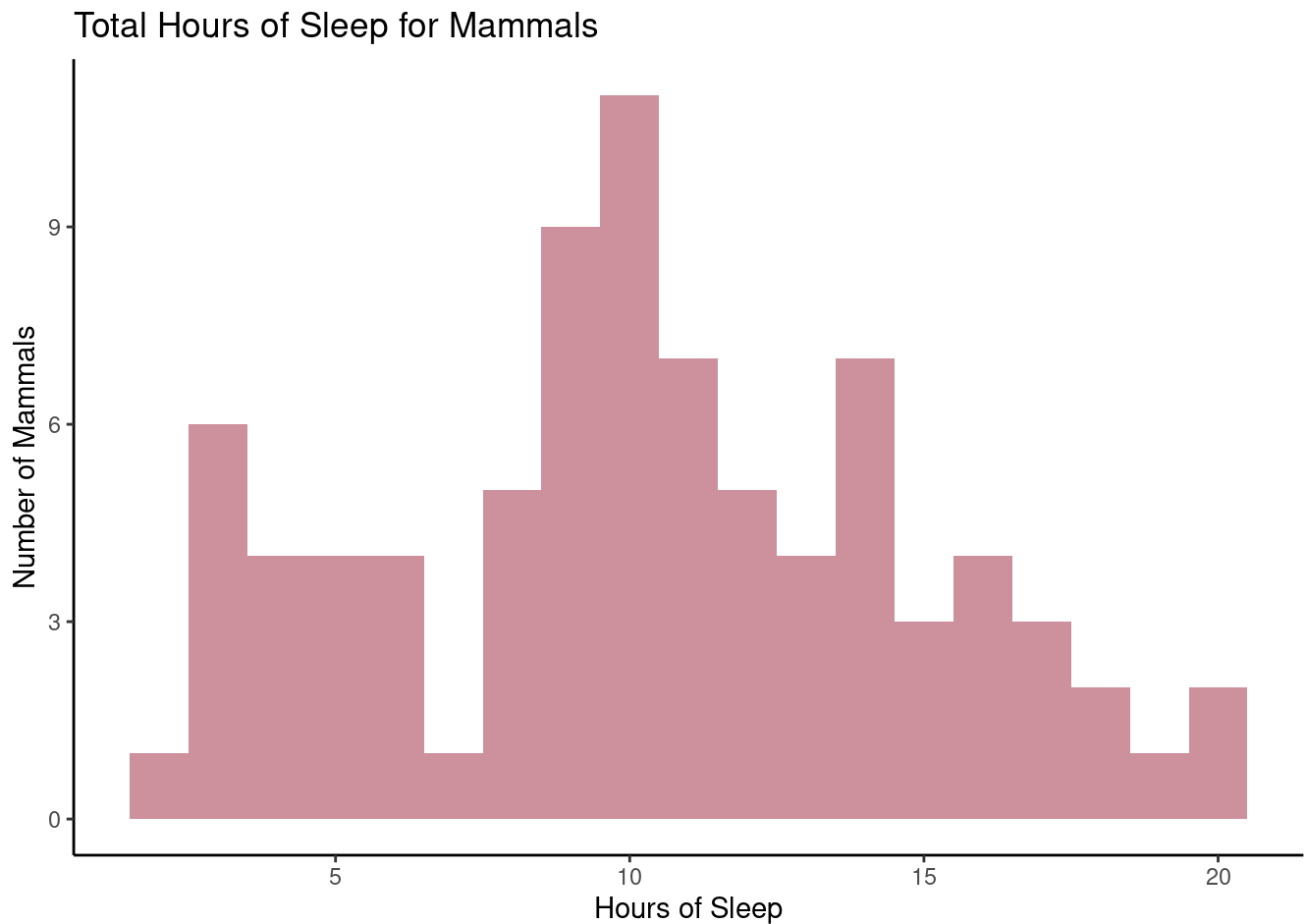
We will be using the data set `msleep` for this. Explore the data set using the help function.

```
?msleep
```

Problem 2

Create a histogram for the variable `sleep_total`. Select a binwidth you think fits the data best. Change the color of the bars (hint: use `geom_histogram(binwidth = YOUR VALUE, fill = "YOUR COLOR")`). I suggest googling “ggplot 2 colors” for ideas. Change the axis labels to include capital letters, and add a title. Add a theme.

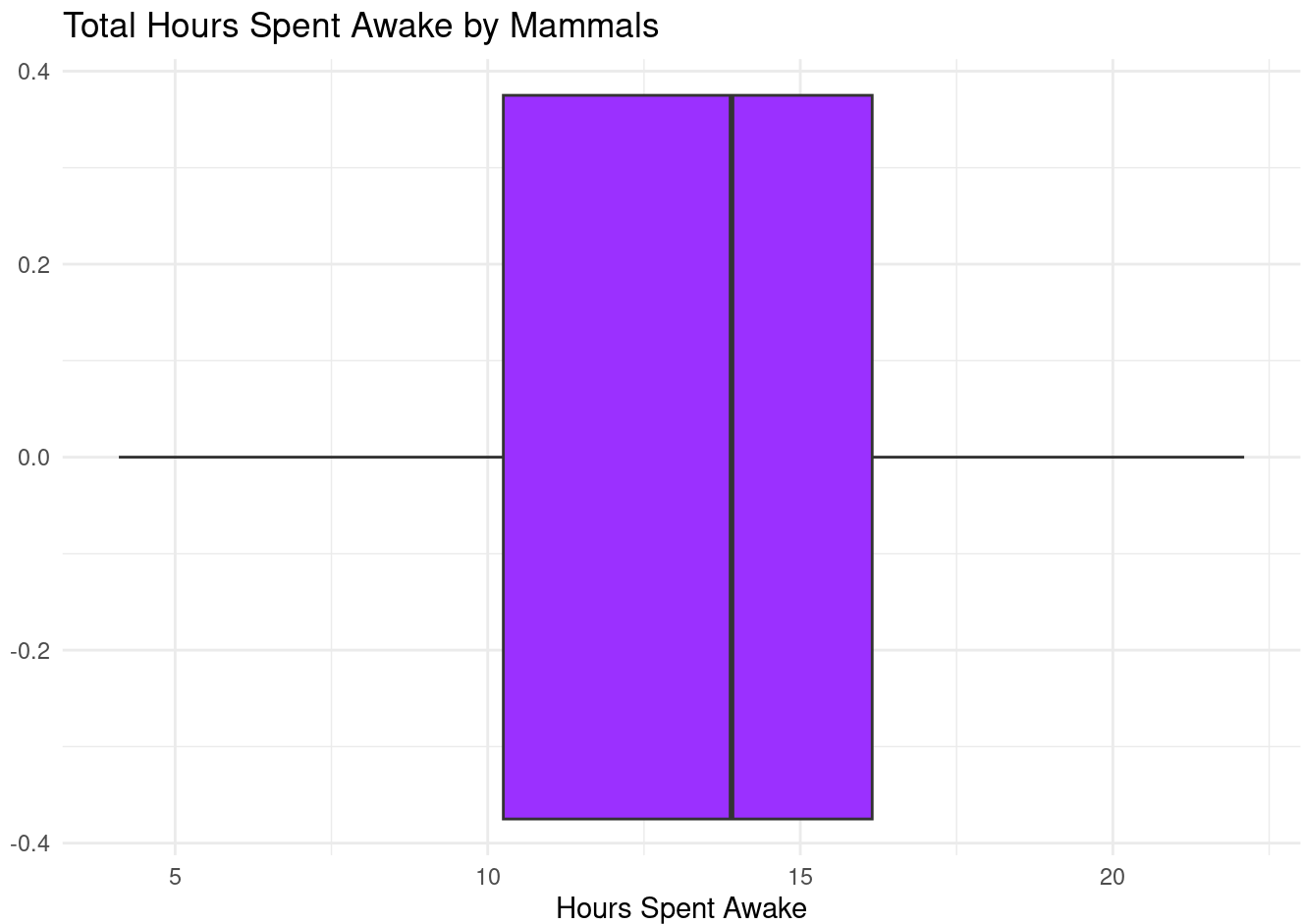
```
ggplot(msleep, aes(sleep_total)) +  
  geom_histogram(binwidth = 1, fill = "pink3") +  
  xlab("Hours of Sleep") +  
  ylab("Number of Mammals") +  
  ggtitle("Total Hours of Sleep for Mammals") +  
  theme_classic()
```



Problem 3

Create a boxplot for the variable `awake`. Change the color of the box (hint: use `geom_boxplot(fill = "your color")`). I suggest goggling "ggplot 2 colors" for ideas. Change the axis label to include capital letters, and add a title. Add a different theme.

```
ggplot(msleep, aes(awake)) +  
  geom_boxplot(fill = "purple1") +  
  xlab("Hours Spent Awake") +  
  ggtitle("Total Hours Spent Awake by Mammals") +  
  theme_minimal()
```



Problem 4

Create a scatter plot for the variables `sleep_rem` and `sleep_total`. Plot the line of best fit and remove the confidence interval. Change the axis label to include capital letters, and add a title. Add a different theme. You may get a warning that a few rows were containing missing values and were ignored, that is normal!

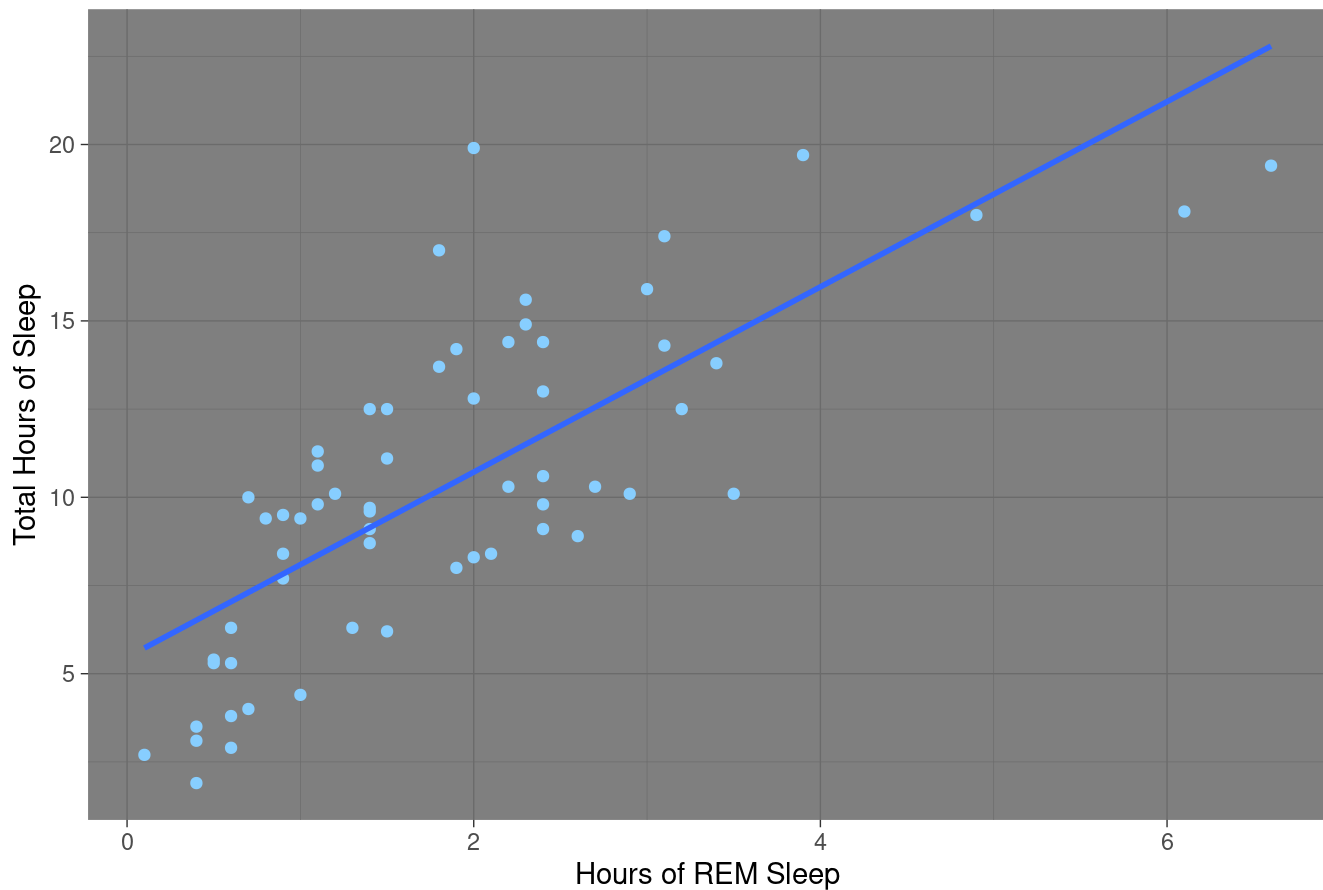
```
ggplot(msleep, aes(sleep_rem, sleep_total)) +
  geom_point(colour = "skyblue1") +
  geom_smooth(method = "lm", se = F) +
  xlab("Hours of REM Sleep") +
  ylab("Total Hours of Sleep") +
  ggtitle("Correlation Between Hours of REM Sleep and Total Hours of Sleep") +
  theme_dark()
```

``geom_smooth()`` using formula = 'y ~ x'

Warning: Removed 22 rows containing non-finite values (``stat_smooth()``).

Warning: Removed 22 rows containing missing values (``geom_point()``).

Correlation Between Hours of REM Sleep and Total Hours of Sleep



Now set `color = vore` inside your `aes()` function and see what happens. Make sure you change the title to distinguish between the previous graph.

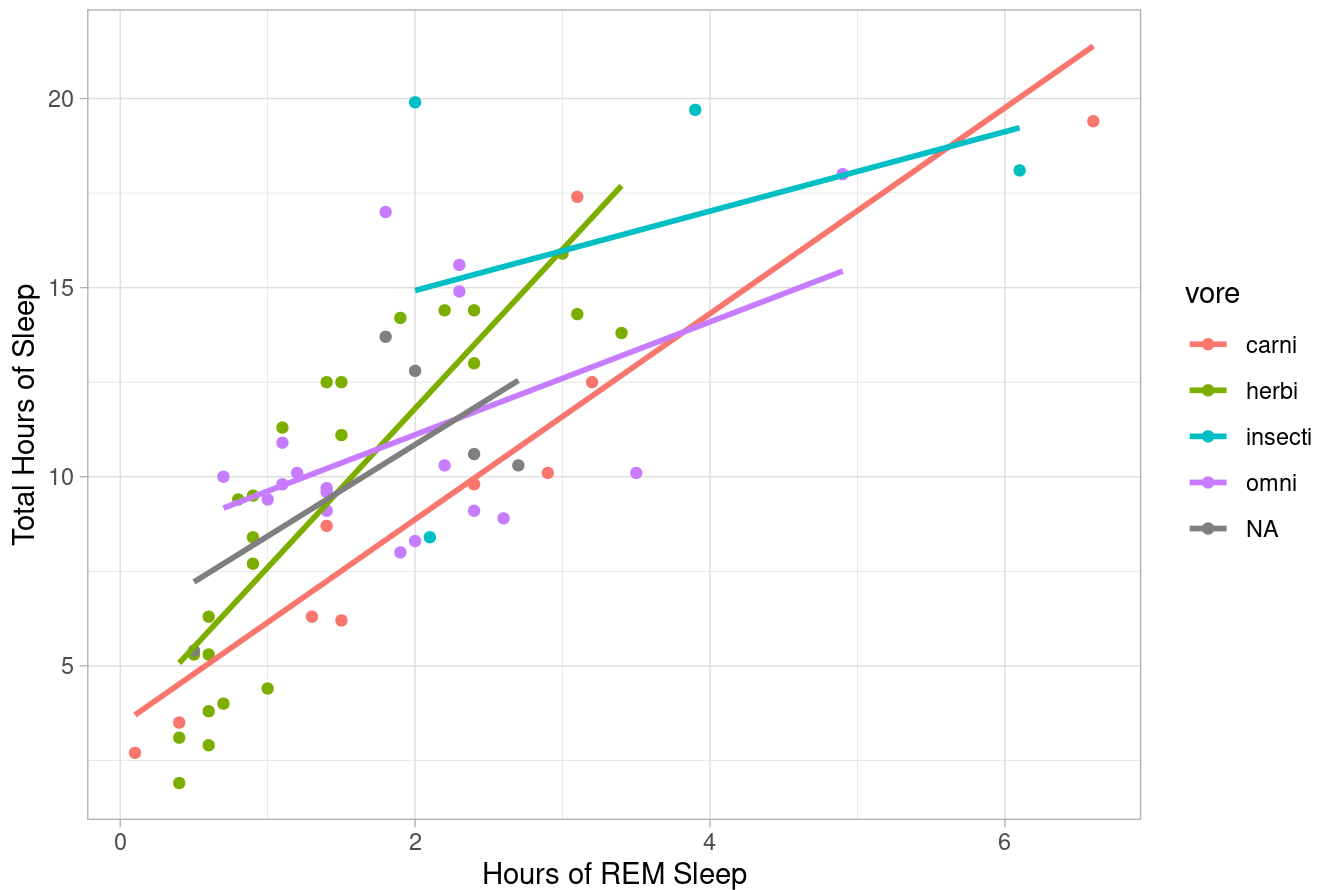
```
ggplot(msleep, aes(sleep_rem, sleep_total, color = vore)) +
  geom_point() +
  geom_smooth(method = "lm", se = F) +
  xlab("Hours of REM Sleep") +
  ylab("Total Hours of Sleep") +
  ggtitle("Relationship Between Hours of REM Sleep and Total Hours of Sleep") +
  theme_light()
```

``geom_smooth()`` using formula = 'y ~ x'

Warning: Removed 22 rows containing non-finite values (``stat_smooth()``).

Warning: Removed 22 rows containing missing values (``geom_point()``).

Relationship Between Hours of REM Sleep and Total Hours of Sleep

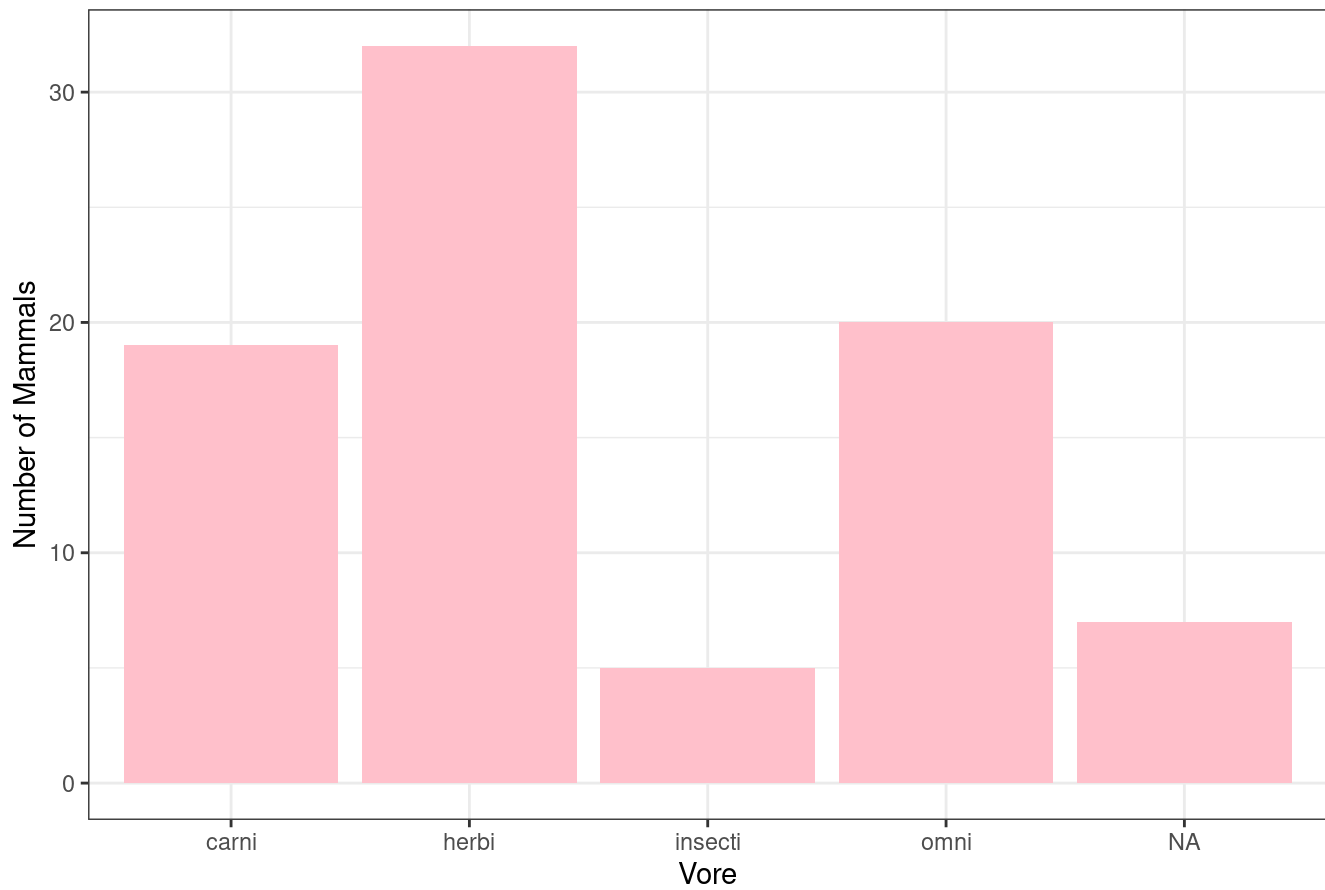


Problem 5

Create a bar chart for the variable `vore`. Change the color of the bars. Change the axis label to include capital letters, and add a title. Add a different theme.

```
ggplot(msleep, aes(vore)) +
  geom_bar(fill = "pink") +
  xlab("Vore") +
  ylab("Number of Mammals") +
  ggtitle("Types of Genus in Mammals") +
  theme_bw()
```

Types of Genus in Mammals



Submitting

Submit the following to Canvas:

- Your rendered PDF titled Lastname_2R. Make sure your name is at the top of the document.
- Your .qmd file