Lab in ggplot2

Load ggplot2 into your current R session.

```
library(ggplot2)
```

Question 1

The reshape2 package contains a dataset named tips, which contains information on dining trasactions. Load the reshape2 package to gain access to this data (install it if you need to). Summary of the data follows:

```
library(reshape2)
str(tips)
```

```
## 'data.frame':    244 obs. of  7 variables:
##  $ total_bill: num  17 10.3 21 23.7 24.6 ...
##  $ tip       : num  1.01 1.66 3.5 3.31 3.61 4.71 2 3.12 1.96 3.23 ...
##  $ sex       : Factor w/ 2 levels "Female","Male": 1 2 2 2 1 2 2 2 2 2 ...
##  $ smoker    : Factor w/ 2 levels "No","Yes": 1 1 1 1 1 1 1 1 1 1 ...
##  $ day       : Factor w/ 4 levels "Fri","Sat","Sun",..: 3 3 3 3 3 3 3 3 3 3 ...
##  $ time      : Factor w/ 2 levels "Dinner","Lunch": 1 1 1 1 1 1 1 1 1 1 ...
##  $ size      : int  2 3 3 2 4 4 2 4 2 2 ...
```

Create the following graphs:

(a) Plot time on x-axis, total_bill on the y-axis, colored by smoker and shaped by sex.

(b) jitter the previous plot so points are more visible

(c) Create the same plot with a "minimilist" theme

(d) Add a title to your plot

(e) Create a stacked bar graph with time on x-axis, count on the y-axis, filled by sex.

(f) Create a dodged bar graph with time on x-axis, count on the y-axis, filled by sex.

(g) Change the color of your bars.

Question 2

Create some fictional data using the following code:

```
set.seed(22)
x_int <- seq(10)
x_fact <- factor(seq(10))
y <- rnorm(10,2,13)
myDF <- data.frame(x_int, x_fact, y)
```

Note the types of each of the columns in myDF.

(a) Create a line graph with x_int on the x-axis and y on the y-axis.

(b) Add a title to you plot and make the title centered

(c) Add points to your plot

(d) Increase the font size

(e) Use the bw theme.

Question 3

Create some fictional data using the following code:

```
set.seed(33)
day <- rep(seq(7), 2)
stockPrice <- rnorm(14, 2, 13)
company <- c(rep("GOOG", 7), rep("APPL", 7))
myDF <- data.frame(day, stockPrice, company)
```

(a) Create a line and point graph with `day` on the x-axis and `stockPrice` on the y-axis, grouped by `company`.

(b) Make a boxplot of the stock data with one box for google's stock prices and one box for apple's stock prices. Make the color of the box different for each company.

Question 4

(a) Using the dataframe "msleep" (which comes with ggplot2) make a histogram showing the sleep total values.

(b) Make the same histogram, this time with more bins (smaller binwidth)

(c) Make the same histogram, this time with fewer bins (larger binwidth)

(d) Read the documentation for "facet_wrap()". Use facet_wrap to make a plot with facets showing the "sleep_total" divided by "vore".