Quiz 5

Name:

`titanic` data

For the questions today, you will be using data for passengers from the Titanic. Here is the start of this dataset, called `titanic`:

```
titanic <- read.csv("../data/titanic.csv", as.is = TRUE) %>%
        select(Survived, Pclass, Age, Name, Sex, Fare)
head(titanic)
```

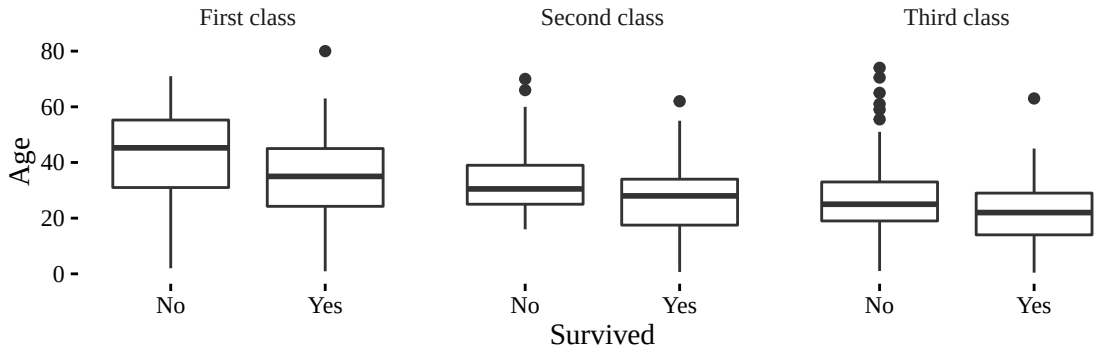
```
##   Survived Pclass Age                                                 Name
## 1        0      3  22                              Braund, Mr. Owen Harris
## 2        1      1  38 Cumings, Mrs. John Bradley (Florence Briggs Thayer)
## 3        1      3  26                               Heikkinen, Miss. Laina
## 4        1      1  35       Futrelle, Mrs. Jacques Heath (Lily May Peel)
## 5        0      3  35                             Allen, Mr. William Henry
## 6        0      3  NA                                     Moran, Mr. James
##      Sex    Fare
## 1   male  7.2500
## 2 female 71.2833
## 3 female  7.9250
## 4 female 53.1000
## 5   male  8.0500
## 6   male  8.4583
```

1.–6.

Match the output to the numbers written in comments at the end of code lines. Each correct answer will show the output if you printed it out as of that line of code (i.e., you've run that line of the code with the exception of any `%>%` or `+` at the line end). Each number will have one and only one answer. Write your answer beside the question number in the code. For any answers that are dataframes, I'm only showing the `head` of the dataframe.

```
toplot_1 <- filter(titanic, !is.na(Age)) %>%                    # 1.
        select(-Name, -Sex, -Fare) %>%                          # 2.
        mutate(Survived = factor(Survived,
                                 levels = c(0, 1),
                                 labels = c("No", "Yes")),
               Pclass = factor(Pclass, levels = c(1, 2, 3),
                               labels = c("First class", "Second class",
                                          "Third class")))      # 3.
my_plot <- ggplot(toplot_1, aes(x = Survived, y = Age)) +
        geom_boxplot() +                                        # 4.
        theme_tufte() +                                         # 5.
        facet_grid(. ~ Pclass)                                  # 6.
```

a.



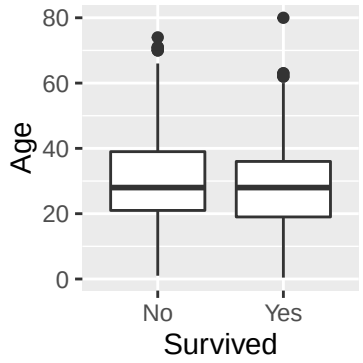
b.

```
##   Survived Pclass Age                                                Name
## 1        0      3  22                                Braund, Mr. Owen Harris
## 2        1      1  38 Cumings, Mrs. John Bradley (Florence Briggs Thayer)
## 3        1      3  26                                 Heikkinen, Miss. Laina
## 4        1      1  35        Futrelle, Mrs. Jacques Heath (Lily May Peel)
## 5        0      3  35                              Allen, Mr. William Henry
## 6        0      3  NA                                      Moran, Mr. James
##      Sex    Fare
## 1   male  7.2500
## 2 female 71.2833
## 3 female  7.9250
## 4 female 53.1000
## 5   male  8.0500
## 6   male  8.4583
```

c.

```
##   Survived      Pclass Age
## 1       No Third class  22
## 2      Yes First class  38
## 3      Yes Third class  26
## 4      Yes First class  35
## 5       No Third class  35
## 6       No First class  54
```

d.



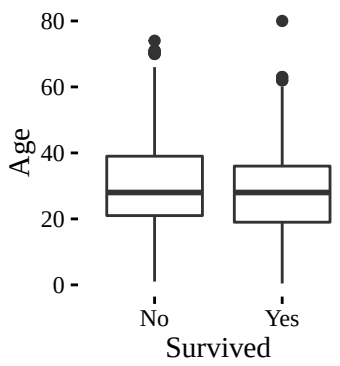
e.

```
##   Survived Pclass Age
## 1        0      3  22
## 2        1      1  38
## 3        1      3  26
## 4        1      1  35
## 5        0      3  35
## 6        0      1  54
```

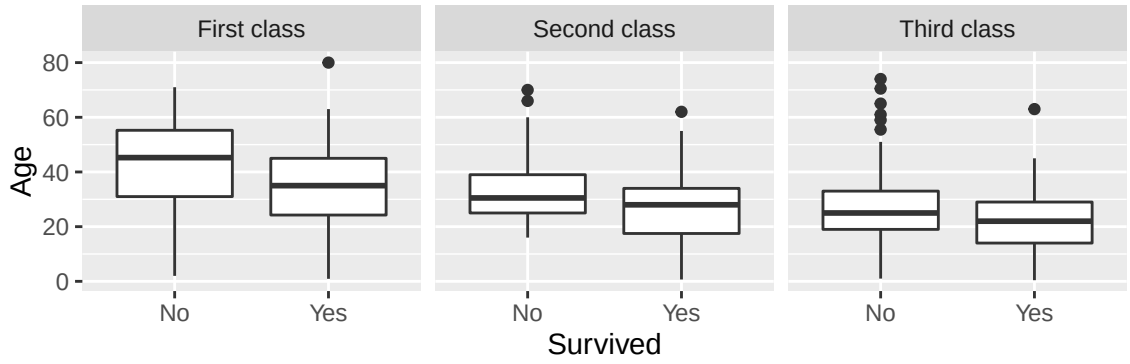
f.

```
##   Survived Pclass Age                                                Name
## 1        0      3  22                             Braund, Mr. Owen Harris
## 2        1      1  38 Cumings, Mrs. John Bradley (Florence Briggs Thayer)
## 3        1      3  26                              Heikkinen, Miss. Laina
## 4        1      1  35        Futrelle, Mrs. Jacques Heath (Lily May Peel)
## 5        0      3  35                           Allen, Mr. William Henry
## 6        0      1  54                           McCarthy, Mr. Timothy J
##      Sex    Fare
## 1   male  7.2500
## 2 female 71.2833
## 3 female  7.9250
## 4 female 53.1000
## 5   male  8.0500
## 6   male 51.8625
```

g.



h.



Answers: 1. f., 2. e., 3. c., 4. d., 5. g., 6. a.

7.–8.

You create the following function:

```
clean_data <- function(df, age){
        df_subset <- subset(df, Age == age) %>%
                filter(!is.na(Age)) %>%
                select(Survived, Sex, Age, Name)
        return(df_subset)
}
```

What would you get if you ran the following code? (Only one answer each; please write the letter by the number in the code.)

```
df_35 <- clean_data(df = titanic, age = 35)
head(df_35, 3)                                  # 7.
with(df_35, table(Sex, Survived))               # 8.
```

a.

```
##   Survived    Sex Age                                                Name
## 1        0   male  22                             Braund, Mr. Owen Harris
## 2        1 female  38 Cumings, Mrs. John Bradley (Florence Briggs Thayer)
## 3        1 female  26                              Heikkinen, Miss. Laina
```

b.

```
##   Survived    Sex Age                                          Name
## 1        1 female  35 Futrelle, Mrs. Jacques Heath (Lily May Peel)
## 2        0   male  35                       Allen, Mr. William Henry
## 3        0   male  35                           Fynney, Mr. Joseph J
```

c.

```
##         Survived
## Sex      0 1
##   female 0 8
##   male   7 3
```

d.

```
##   Survived Pclass Age                                          Name    Sex
## 1        1      1  35 Futrelle, Mrs. Jacques Heath (Lily May Peel) female
## 2        0      3  35                       Allen, Mr. William Henry   male
## 3        0      2  35                           Fynney, Mr. Joseph J   male
##    Fare
## 1 53.10
## 2  8.05
## 3 26.00
```

e.

```
## Sex
## female   male
##      8     10
```

```
## Survived
##  0  1
##  7 11
```

Answers: 7. b., 8. c.