

R Programming Assessment

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1. From the following R code, what is the value of the variable `z`?

```
x <- 3
y <- 15
z <- y/x
```

2. From the data frame named `email`, what do we expect from the following code?

```
email[1:6, "spam"]
# or equivalently
head(spam)
```

3. What does the following code tell us about the variable `spam`?

```
is.factor(email$spam)
```

4. If both variables `num_char` and `line_breaks` are numerical variables, what type of plot can we expect from the following code? Be as specific as you can.

```
ggplot(email, aes(x=num_char, y=line_breaks)) + geom_point()
```

5. What does this error mean? What is the code you need to submit to remedy this problem?

```
ggplot(email, aes(x=num_char, y=line_breaks)) + geom_point()
```

Error in ggplot(email, aes(x = num_char, y = line_breaks)): could not find function "ggplot"

6. What are the resulting data types for each of the following vectors?

```
c(1,2,3,4)
c("a","b","c","d")
c(1, 2, 3, "a")
c(TRUE, FALSE, FALSE, TRUE)
c(1, 2, 3, "4")
```

7. How many numbers do we expect from the following code?

```
x = c(1,2,3,4,5,10)
(x - mean(x))^2 / (length(x) - 1)
```

8. What would the result of running this line of code produce?

```
# data * 6
```

9. What is the result of the `mean()` function? Why?

```
x <- c(3,4,6,NA,6,2,10)
mean(x)
```

10. Below there are two screenshots that show the location of a tab-delimited data file named `mydata.txt`. There is one for an Apple computer and one for a Windows computer. You have already looked at the file itself so You know that the first row contains the variable names. Write the code needed to import this data into R for your operating system of choice.

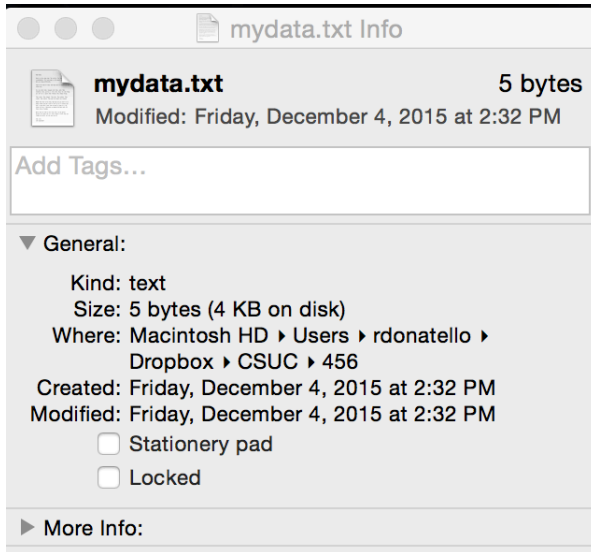


Figure 1: Mac

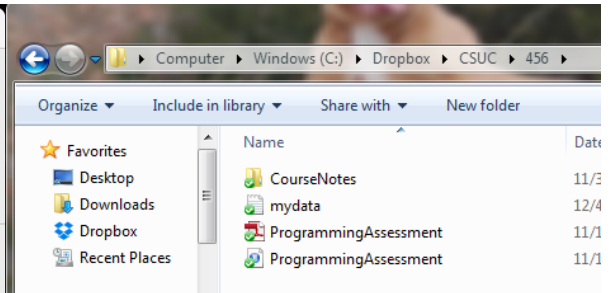


Figure 2: Windows