✖

Week 1 Quiz

20 questions

1.
R was developed by statisticians working at

○   Harvard University

◉   The University of Auckland

○   StatSci

○   Bell Labs

2.
The definition of free software consists of four freedoms (freedoms 0 through 3). Which of the following is NOT one of the freedoms that are part of the definition? Select all that apply.

☑   The freedom to sell the software for any price.

☐   The freedom to improve the program, and release your improvements to the public, so that the whole community benefits.

☐   The freedom to run the program, for any purpose.

☐   The freedom to study how the program works, and adapt it to your needs.

☑   The freedom to prevent users from using the software for undesirable purposes.

☐ The freedom to restrict access to the source code for the software.

☐ The freedom to redistribute copies so you can help your neighbor.

3.

In R the following are all atomic data types EXCEPT: (Select all that apply)

☐ table

☐ list

☐ complex

☐ array

☐ logical

☐ integer

☐ numeric

☐ data frame

☐ matrix

☐ character

4.

If I execute the expression x <- 4L in R, what is the class of the object `x' as determined by the `class()' function?

○ numeric

○ character

○ matrix

○ complex

◉ integer

○ logical

5.

What is the class of the object defined by x <- c(4, TRUE)?

○ logical

○ character

○ list

◉ numeric

○ matrix

○ integer

6.

If I have two vectors x <- c(1,3, 5) and y <- c(3, 2, 10), what is produced by the expression cbind(x, y)?

○ a vector of length 3

○ a vector of length 2

◉ a matrix with 2 columns and 3 rows

○ a 2 by 3 matrix

○ a 3 by 3 matrix

○ a 2 by 2 matrix

7.

A key property of vectors in R is that

○   the length of a vector must be less than 32,768

○   elements of a vector can only be character or numeric

○   a vector cannot have have attributes like dimensions

◉   elements of a vector all must be of the same class

○   elements of a vector can be of different classes

8.

Suppose I have a list defined as x <- list(2, "a", "b", TRUE). What does x[[1]] give me? Select all that apply.

☐   a numeric vector of length 1.

☐   a character vector containing the element "2".

☑   a numeric vector containing the element 2.

☐   a list containing the number 2.

☐   a list containing the letter "a".

9.

Suppose I have a vector x <- 1:4 and y <- 2:3. What is produced by the expression x + y?

○   an error.

○   a numeric vector with the values 3, 5, 3, 4.

◉   an integer vector with the values 3, 5, 5, 7.

○   a warning

○   an integer vector with the values 3, 5, 3, 4.

○   an numeric vector with the values 3, 5, 5, 7.

○   a numeric vector with the values 1, 2, 5, 7.

10.

Suppose I have a vector x <- c(17, 14, 4, 5, 13, 12, 10) and I want to set all elements of this vector that are greater than 10 to be equal to 4. What R code achieves this? Select all that apply.

☐   x[x < 10] <- 4

☐   x[x > 10] <- 4

☐   x[x == 10] <- 4

☐   x[x > 10] == 4

☐   x[x == 4] > 10

☐   x[x >= 10] <- 4

☐   x[x > 4] <- 10

☑   x[x >= 11] <- 4

11.

Use the Week 1 Quiz Data Set (https://d396qusza40orc.cloudfront.net/rprog/data/quiz1_data.zip) to answer questions 11-20.

In the dataset provided for this Quiz, what are the column names of the dataset?

◉   Ozone, Solar.R, Wind, Temp, Month, Day

○   Month, Day, Temp, Wind

○   1, 2, 3, 4, 5, 6

○   Ozone, Solar.R, Wind

12.

Extract the first 2 rows of the data frame and print them to the console. What does the output look like?

○

```
  Ozone Solar.R Wind Temp Month Day
1    7      NA  6.9   74     5  11
2   35     274 10.3   82     7  17
```

○

```
  Ozone Solar.R Wind Temp Month Day
1   18     224 13.8   67     9  17
2   NA     258  9.7   81     7  22
```

◉

```
  Ozone Solar.R Wind Temp Month Day
1   41     190  7.4   67     5   1
2   36     118  8.0   72     5   2
```

○

```
  Ozone Solar.R Wind Temp Month Day
1    9      24 10.9   71     9  14
2   18     131  8.0   76     9  29
```
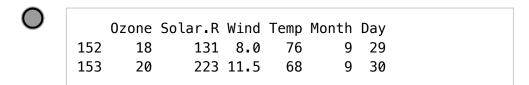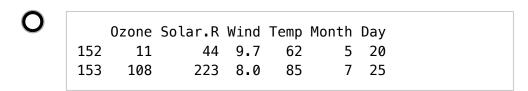

13.

How many observations (i.e. rows) are in this data frame?

○   160

○   45

○   129

◉   153

14.

Extract the *last* 2 rows of the data frame and print them to the console.
What does the output look like?

○ (selected)
```
    Ozone Solar.R Wind Temp Month Day
152    18     131  8.0   76     9  29
153    20     223 11.5   68     9  30
```

○
```
    Ozone Solar.R Wind Temp Month Day
152    11      44  9.7   62     5  20
153   108     223  8.0   85     7  25
```

○
```
    Ozone Solar.R Wind Temp Month Day
152    34     307 12.0   66     5  17
153    13      27 10.3   76     9  18
```

○
```
    Ozone Solar.R Wind Temp Month Day
152    31     244 10.9   78     8  19
153    29     127  9.7   82     6   7
```

15.

What is the value of Ozone in the 47th row?

○ 18

○ 34

○ 63

◉ 21

16.

How many missing values are in the Ozone column of this data frame?

○ 9

◉ 37

○ 43

○ 78

17.

What is the mean of the Ozone column in this dataset? Exclude missing values (coded as NA) from this calculation.

○ 53.2

○ 31.5

◉ 42.1

○ 18.0

18.

Extract the subset of rows of the data frame where Ozone values are above 31 and Temp values are above 90. What is the mean of Solar.R in this subset?

◉ 212.8

○ 334.0

○ 205.0

○ 185.9

19.

What is the mean of "Temp" when "Month" is equal to 6?

○ 75.3

○ 90.2

◉ 79.1

○   85.6

20.

What was the maximum ozone value in the month of May (i.e. Month is equal to 5)?

○   18

○   97

○   115

◉   100

Submit Quiz

👍   👎   🏳