1. The R language is a dialect of which of the following programming languages?

Java

Haskell

S

C

1  
point

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 restrict access to the source code for the software.

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

The freedom to run the program, for any purpose.

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

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

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

1  
point

3.

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

data frame

table

matrix

character

numeric

list

integer

array

logical

complex

1  
point

4.

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



complex



list



matrix



integer



vector



real



numeric

1  
point

5.

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



character



logical



integer



numeric



mixed

1  
point

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 3 by 3 matrix



a 2 by 3 matrix



a 2 by 2 matrix

1  
point

7. A key property of vectors in R is that



a vector cannot have have attributes like dimensions



elements of a vector can only be character or numeric



elements of a vector all must be of the same class



elements of a vector can be of different classes



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

1  
point

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 list containing the letter "a".



a character vector containing the element "2".



a numeric vector of length 1.



a numeric vector containing the element 2.



a list containing the number 2.

1  
point

9.

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



a numeric vector with elements 3, 4, 5, 6.



a numeric vector with elements 3, 2, 3, 6.



a numeric vector with elements 1, 2, 3, 6.



an integer vector with elements 3, 2, 3, 4.



an integer vector with elements 3, 2, 3, 6.



a numeric vector with elements 3, 2, 3, 4.

1  
point

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 == 4] > 10



x[x >= 10] <- 4



x[x > 10] <- 4



x[x > 10] == 4



x[x > 4] <- 10



x[x >= 11] <- 4



x[x < 10] <- 4



x[x == 10] <- 4

1  
point

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?



1, 2, 3, 4, 5, 6



Month, Day, Temp, Wind



Ozone, Solar.R, Wind



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

1  
point

12.

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





1

2

3

Ozone Solar.R Wind Temp Month Day

1 9 24 10.9 71 9 14

2 18 131 8.0 76 9 29

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

1 7 NA 6.9 74 5 11

2 35 274 10.3 82 7 17

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

1 18 224 13.8 67 9 17

2 NA 258 9.7 81 7 22

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

1 41 190 7.4 67 5 1

2 36 118 8.0 72 5 2

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1  
point

13.

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



153



45



160



129

1  
point

14.

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





1

2

3

Ozone Solar.R Wind Temp Month Day

152 34 307 12.0 66 5 17

153 13 27 10.3 76 9 18

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

152 31 244 10.9 78 8 19

153 29 127 9.7 82 6 7

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

152 11 44 9.7 62 5 20

153 108 223 8.0 85 7 25

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX





1

2

3

Ozone Solar.R Wind Temp Month Day

152 18 131 8.0 76 9 29

153 20 223 11.5 68 9 30

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

1  
point

15.

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



34



18



21



63

1  
point

16.

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



9



78



37



43

1  
point

17.

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



42.1



31.5



53.2



18.0

1  
point

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 in this subset?



212.8



185.9



205.0



334.0

1  
point

19.

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



79.1



90.2



85.6



75.3

1  
point

20.

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



18



100



115



97

0 questions unanswered