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Week 1 Quiz

Back to Week 1



17/20 points earned (85%)

Quiz passed!



1/1 points

1.

R was developed by statisticians working at

- O Harvard University
- O The University of Auckland

Correct Response

The R language was developed by Ross Ihaka and Robert Gentleman who were statisticians at the University of Auckland in New Zealand.

- The University of New South Wales
- O Bell Labs



0 / 1 points

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

Correct Response

This is freedom 3.

The freedom to sell the software for any price.
Incorrect Response This is not part of the free software definition. The free software definition does not mention anything about selling software (although it does not disallow it).
The freedom to restrict access to the source code for the software.
Correct Response This is not part of the free software definition. Freedoms 1 and 3 require access to the source code.
The freedom to redistribute copies so you can help your neighbor.
Correct Response This is freedom 2.
The freedom to prevent users from using the software for undesirable purposes.
Correct Response This is not part of the free software definition. Freedom 0 requires that the users of free software be free to use the software for any purpose.
The freedom to study how the program works, and adapt it to your needs.
Correct Response This is freedom 1.
The freedom to run the program, for any purpose.
Correct Response This is freedom 0.

X

0 / 1 points

3.

in K the	e following are all atomic data types EXCEPT: (Select all that apply)
	logical
Corre	ect Response
	table
	e' is not an atomic data type in R.
	numeric
Corre	ect Response
	matrix
	rrect Response rrix' is not an atomic data type in R.
	complex
Corre	ect Response
	array
	ect Response ny' is not an atomic data type in R.
	list
	rrect Response is not an atomic data type in R.
	integer
Corre	ect Response
	data frame

Correct	Response
---------	----------

'data frame' is not an atomic o	data type in R.

Character

Correct Response



1/1 points

4.

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

0

integer

Correct Response

The 'L' suffix creates an integer vector as opposed to a numeric vector.

- O logical
- O matrix
- O character
- O numeric
- O complex



1/1 points

5.

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

- O character
- O integer
- O matrix
- O logical

. .. .

\cup	list							
0	numeric							
The	ect Response numeric class is the "lowest common denominator" here and so lements will be coerced into that class.							
~	1/1 points							
	we two vectors $x <- c(1,3,5)$ and $y <- c(3,2,10)$, what is produced by the ssion cbind(x , y)?							
0	a 3 by 3 matrix							
0	a vector of length 2							
0	a matrix with 2 columns and 3 rows							
The mat	ect Response 'cbind' function treats vectors as if they were columns of a rix. It then takes those vectors and binds them together column- e to create a matrix.							
0	a 2 by 2 matrix							
0	a 2 by 3 matrix							
0	a vector of length 3							
~	1 / 1 points							
7 . A key p	property of vectors in R is that							
0	a vector cannot have have attributes like dimensions							
0	elements of a vector all must be of the same class							

Correct Response

\cup	the length of a vector must be less than 52,700							
0	elements of a vector can only be character or numeric							
0	elements of a vector can be of different classes							
	1/1							
V	points							
	se I have a list defined as $x <$ - list(2, "a", "b", TRUE). What does $x[[1]]$ e? Select all that apply.							
	a character vector containing the element "2".							
Corr	ect Response							
	a list containing a numeric vector of length 1.							
Corr	ect Response							
	a list containing the number 2.							
Corr	ect Response							
	a numeric vector of length 1.							
Corre	ect Response							
	a numeric vector containing the element 2.							
Corr	ect Response							
×	0 / 1 points							
	se I have a vector $x <- 1:4$ and $y <- 2:3$. What is produced by the sion $x + y$?							

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

C	an error.				
C	a warning				
0	an numeric vector with the values 3, 5, 5, 7.				
Incorrect Response					

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

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

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



1/1 points

10.

Suppose I have a vector x <- c(3, 5, 1, 10, 12, 6) and I want to set all elements of this vector that are less than 6 to be equal to zero. What R code achieves this? Select all that apply.



$$x[x < 6] == 0$$

Correct Response

This takes the elements of x that are less than 6 and tests whether they are equal to 0 or not.



x[x %in% 1:5] <- 0



You can create a logical vector with the expression x %in% 1:5 and then use the [operator to subset the original vector x.



$$x[x == 6] <- 0$$

Correct Response

This sets all the elements that are equal to 6 to be 0.



Correct Response

You can create a logical vector with the expression x < 6 and then use

the [operator to subset the original vector x.

Correct Response

This sets all the elements *greater* than 6 to be zero.

x[x == 0] < 6

Correct Response

This takes the elements of x that are equal to 0 and tests whether they are less than 6 or not.

x[x <= 5] <- 0

Correct Response

You can create a logical vector with the expression $x \le 5$ and then use the [operator to subset the original vector x.

x[x == 0] <- 6

Correct Response

This sets all the elements that are equal to 0 to be 6.

Correct Response

This sets all the elements not equal 6 to be zero.

x[x > 0] < -6

Correct Response

This sets all the elements greater than 0 to be equal to 6.

 $x[x \ge 6] < 0$

Correct Response

This sets all the elements greater than or equal to 6 to be zero.



11.

Use the Week 1 Quiz Data Set to answer questions 11-20.

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

Ozone, Solar.R, Wind

points



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

Correct Response

You can get the column names of a data frame with the `names()' function.

1, 2, 3, 4, 5, 6

Month, Day, Temp, Wind



1/1 points

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 2 1 9 24 10.9 71 9 14 18 131 8.0 9 29

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

Ozone Solar.R Wind Temp Month Day 2 1 41 190 7.4 67 2 3 2 36 118 8.0 72 5

Correct Response

You can extract the first two rows using the [operator and an integer sequence to index the rows.

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



1/1

points

13.

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

- **(**) 160
- O 129
- O 45
- O 153

Correct Response

You can use the `nrows()' function to compute the number of rows in a data frame.

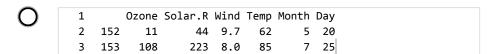


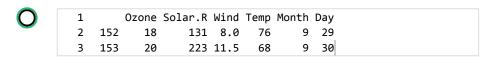
1/1 points

14.

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

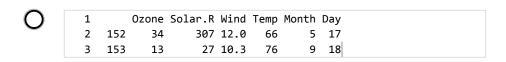
\bigcirc	1		Ozone	Solar.R	Wind	Temp	Month	Day
•	2	152	31	244	10.9	78	8	19
	3	153	29	127	9.7	82	6	7





Correct Response

The `tail()' function is an easy way to extract the last few elements of an R object.





1/1 points

15.

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

O	63
0	18
0	34
0	21

Correct Response

The single bracket [operator can be used to extract individual rows of a data frame.



1/1 points

16.

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

- O 78
- **O** 43
- O 9
- O 37

Correct Response

The `is.na' function can be used to test for missing values.



1/1 points

17.

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



42.1

Correct Response

The `mean' function can be used to calculate the mean.

0

18.0

		Week 1 Quiz Coursera
0	53.2	
0	31.5	
	1 / 1	
\	1 / 1 points	
		et of rows of the data frame where Ozone values are above ues are above 90. What is the mean of Solar.R in this subset?
0	205.0	
0	185.9	
0	334.0	
0	212.8	
You		se onstruct a logical vector in R to match the question's Then use that logical vector to subset the data frame.
~	1 / 1 points	
19. What i	s the mear	n of "Temp" when "Month" is equal to 6?
0	90.2	
0	79.1	
Corr	ect Respons	se
0	85.6	
0	75.3	

/

1/1 points

20.

พาเลน was the maximum ozone value in the month of iviay (i.e. เพื่อที่เการ equal to 5)?

100

18

115

Correct Response

97





