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Week 1 Quiz

Back to Week 1



20/20 points earned (100%)

Quiz passed!



1/1 points

1.

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

- O Lisp
- Scheme
- O Fortran
- 0

S

Correct Response

R is a dialect of the S language which was developed at Bell Labs.



1/1 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.



	Week 1 Quiz Coursera
	The freedom to study how the program works, and adapt it to your needs.
	ect Response
This	is freedom 1.
	The freedom to run the program, for any purpose.
Corre	ect Response
	is freedom 0.
	The freedom to restrict access to the source code for the software.
C	and Dannauan
	ect Response
	is not part of the free software definition. Freedoms 1 and 3
requ	ire access to the source code.
	TI 6 1 . IIII 6
ш	The freedom to sell the software for any price.
Corre	ect Response
This	is not part of the free software definition. The free software
defir	nition does not mention anything about selling software
(alth	ough it does not disallow it).
	The freedom to redistribute copies so you can help your neighbor.
Corre	ect Response
	is freedom 2.
	The freedom to prevent users from using the software for
	undesirable purposes.
	andeshable parposes.
C-	and Danness
	ect Response
	is not part of the free software definition. Freedom 0 requires
	the users of free software be free to use the software for any
purp	oose.

/

1/1 points

3.

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

Correct Response

table 15 Hot all atollic data type III IV.

Corr	array ect Response
	ay' is not an atomic data type in R.
✓ 4.	1/1 points
	cute the expression $x <- 4L$ in R, what is the class of the object x' as nined by the $class()'$ function?
0	matrix
0	numeric
0	character
0	integer
	ect Response 'L' suffix creates an integer vector as opposed to a numeric or.
0	complex
0	logical
~	1/1 points
5. What i	s the class of the object defined by $x <- c(4, TRUE)$?
0	logical
0	integer
0	character
0	list
0	matrix

Correct Response

The numeric class is the "lowest common denominator" here and so all elements will be coerced into that class.



1/1 points

6.

If I have two vectors $x \leftarrow c(1,3,5)$ and $y \leftarrow c(3,2,10)$, what is produced by the expression rbind(x,y)?

- O a 3 by 3 matrix
- a matrix with two rows and three columns

Correct Response

The 'rbind' function treats vectors as if they were rows of a matrix. It then takes those vectors and binds them together row-wise to create a matrix.

a 2 by 2 matrix
 a vector of length 2
 a vector of length 3
 a 3 by 2 matrix



1/1 points

7.

A key property of vectors in R is that

- a vector cannot have have attributes like dimensionsthe length of a vector must be less than 32,768
- O elements of a vector all must be of the same class

Correct Response

0	elements of a vector can only be character or numeric
0	elements of a vector can be of different classes
~	1 / 1 points
	se I have a list defined as $x <-$ list(2, "a", "b", TRUE). What does $x[[2]]$ e? Select all that apply.
	a character vector with the elements "a" and "b".
Corr	ect Response
	a list containing a character vector with the elements "a" and "b".
Corr	ect Response
	a character vector of length 1.
Corr	ect Response
	a character vector containing the letter "a".
Corr	ect Response
	a list containing character vector with the letter "a".
Corr	ect Response
• 9.	1/1 points

expression x + y?

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, 6.

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

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

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

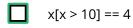
Correct Response



1/1 points

10.

Suppose I have a vector $x \leftarrow c(17, 14, 4, 5, 13, 12, 10)$ 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.



Correct Response

This takes the elements of x that are greater than 10 and tests whether they are equal to 4 or not.

x[x < 10] <- 4

Correct Response

This takes the elements of x that are less than 10 and sets them to 4.

x[x >= 11] <- 4

Correct Response

You can create a logical vector with the expression $x \ge 11$ and then use the [operator to subset the original vector x.

You can create a logical vector with the expression x > 10 and then use the [operator to subset the original vector x.

$$x[x == 4] > 10$$

Correct Response

This takes the elements that are equal to 4 and tests whether they are greater than 10 or not.

$$x[x >= 10] <- 4$$

Correct Response

This takes the elements of x that are greater than or equal to 10 and sets them to 4.

Correct Response

This takes the elements of x that are equal to 10 and sets them to 4.

Correct Response

This takes the elements of x that are greater than 4 and sets them to 10.



1/1 points

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, Temp, Month, Day

Correct Response

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

\cup	1, 2, 3, 4, 5, 6
0	Ozone, Solar.R, 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?

\circ	1		Ozone	Solar.R	Wind	Temp	Month	Day	
•	2	1	9	24	10.9	71	9	14	
	3	2	18	131	8.0	76	9	29	
\mathbf{O}	1		Ozone	Solar.R	Wind	Temp	Month	Day	
	2	1	41	190	7.4	67	5	1	

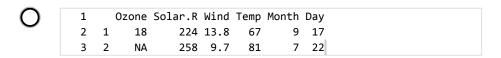
72

Correct Response

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

118 8.0

\bigcirc	1		Ozone	Solar.R	Wind	Temp	Month	Day
				NA				
	3	2	35	274	10.3	82	7	17





1/1 points

13

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

45129153

Correct Response

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

O 160



1/1 points

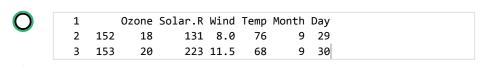
14.

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

\circ	1		Ozone	Solar.R	Wind	Temp	Month	Day
•	2	152	34	307	12.0	66	5	17
	3	153	13	27	10.3	76	9	18

\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

\circ	1		Ozone	Solar.R	Wind	Temp	Month	Day
•	2	152	11	44	9.7	62	5	20
	3	153	108	223	8.0	85	7	25



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 18



Correct Response

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

O 63

O 34

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~	1 / 1 points
16. How m	nany missing values are in the Ozone column of this data frame?
0	9
0	37
	ect Response `is.na' function can be used to test for missing values.
0	43



1/1 points

78

17.

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

31.5

42.1

Correct Response

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

18.0

53.2



1/1 points

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?

334.0

O	205.0
0	185.9
0	212.8
You	ect Response need to construct a logical vector in R to match the question's uirements. Then use that logical vector to subset the data frame.
~	1/1 points
19. What i	s the mean of "Temp" when "Month" is equal to 6?
\(\)	90.2
\circ	85.6
0	
	79.1
Corr	ect Response
Con	ect Response
0	75.3
O ~	
O ✓ 20.	75.3
20. What v	75.3 1/1 points
20. What v	75.3 1 / 1 points was the maximum ozone value in the month of May (i.e. Month is equal
20. What v to 5)?	75.3 1 / 1 points was the maximum ozone value in the month of May (i.e. Month is equal
20. What v to 5)?	75.3 1/1 points was the maximum ozone value in the month of May (i.e. Month is equal 100 115



