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Week 1 Quiz

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20/20 points earned (100%)

Quiz passed!



1/1 points

1.

R was developed by statisticians working at

O Johns Hopkins University



The University of Auckland

Correct

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

- StatSci
- O Insightful



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 sell the software for any price.

Correct

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

Un-selected is correct

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

Correct

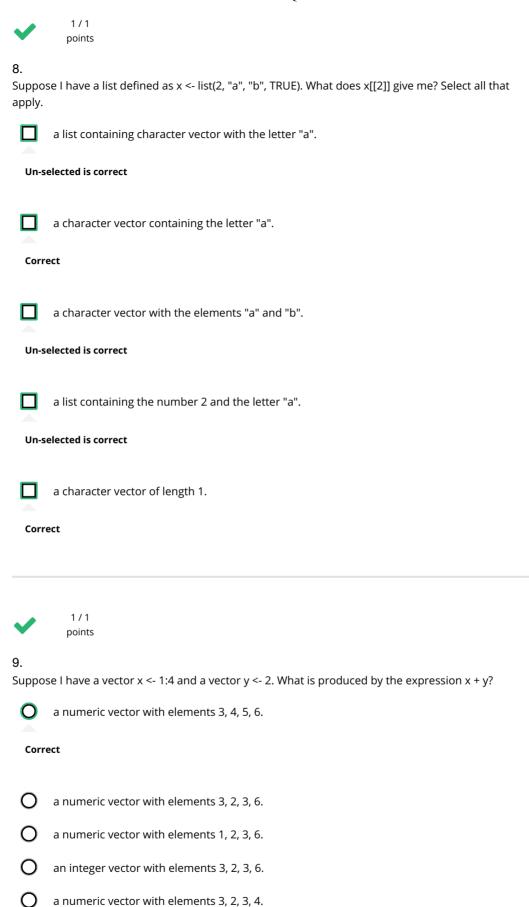
This is not part of the free software definition. Freedoms 1 and 3 require access to the source code.

	The freedom to improve the program, and release your improvements to the public, so that the whole community benefits.
Un-s	elected is correct
	The freedom to redistribute copies so you can help your neighbor.
Un-s	elected is correct
	The freedom to prevent users from using the software for undesirable purposes.
	ect is not part of the free software definition. Freedom 0 requires that the users of free ware be free to use the software for any purpose.
	The freedom to run the program, for any purpose.
Un-s	elected is correct
~	1/1 points
3. In R the	e following are all atomic data types EXCEPT: (Select all that apply)
	character
Un-s	elected is correct
	data frame
Corre	
Uald	a frame' is not an atomic data type in R.
	integer
Un-s	elected is correct
	array
Corr e	ect ny' is not an atomic data type in R.
	numeric
Un-s	elected is correct
	logical

Un-selected is correct
☐ table
Correct 'table' is not an atomic data type in R.
matrix
Correct 'matrix' is not an atomic data type in R.
complex
Un-selected is correct
list
Correct 'list' is not an atomic data type in R.
1/1 points
4. If I execute the expression $x \leftarrow 4L$ in R, what is the class of the object `x' as determined by the `class()' function?
O complex
Ointeger
Correct The 'L' suffix creates an integer vector as opposed to a numeric vector.
O matrix
O numeric
O character
Ological
1/1 points
5. What is the class of the object defined by x <- c(4, TRUE)?

O integer

0	numeric
	numeric class is the "lowest common denominator" here and so all elements will be reed into that class.
0	matrix
0	list
0	logical
0	character
~	1/1 points
6. If I hav	we two vectors $x <- c(1,3,5)$ and $y <- c(3,2,10)$, what is produced by the expression rbind(x,y)?
0	a vector of length 2
0	a vector of length 3
0	a matrix with two rows and three columns
	rect 'rbind' function treats vectors as if they were rows of a matrix. It then takes those vectors binds them together row-wise to create a matrix.
0	a 3 by 3 matrix
0	a 3 by 2 matrix
0	a 2 by 2 matrix
~	1/1 points
7. A key į	property of vectors in R is that
0	elements of a vector all must be of the same class
Corr	ect
0	elements of a vector can be of different classes
0	a vector cannot have have attributes like dimensions
0	elements of a vector can only be character or numeric
0	the length of a vector must be less than 32,768



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1/1

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

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 == 0] <- 6

Un-selected is correct

x[x >= 6] <- 0

Un-selected is correct

x[x == 6] <- 0

Un-selected is correct

x[x < 6] == 0

Un-selected is correct

x[x > 6] < 0

Un-selected is correct

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

Correct

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

Un-selected is correct

x[x > 0] < -6

Un-selected is correct

x[x <= 5] <- 0

Correct

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

Un-selected is correct

x[x < 6] < 0

Correct

You can create a logical vector with the expression x < 6 and then use the [operator to subset the original vector x.



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?

O Month, Day, Temp, Wind



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

Correct

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

1, 2, 3, 4, 5, 6

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?

_								
()	1		0zone	Solar.R	Wind	Temp	Month	Day
				NA				
	3	2	35	274	10.3	82	7	17





Correct

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





1/1 points

13.

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



153

Correct

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

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



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?

_								
\cap	1		0zone	Solar.R	Wind	Temp	Month	Day
\circ	2	152	11	44	9.7	62	5	20
	3	153	108	223	8.0	85	7	25

\bigcirc	1		0zone	Solar.R	Wind	Temp	Month	Day
\cup	2	152	31	Solar.R 244	10.9	78	8	19
	3	153	29	127	9.7	82	6	7





Correct

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



1/1 points

15.

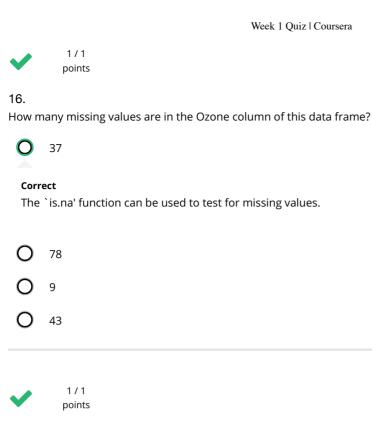
What is the value of Ozone in the 47th row?

- O 63
- **O** 21

Correct

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

- O 34
- O 18



17.

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

18.0

31.5

42.1

Correct

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

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?

185.9

205.0

334.0

212.8

Correct

You need to construct a logical vector in R to match the question's requirements. Then use that logical vector to subset the data frame.