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w/ input from Heather

Question 1: Explain why the outputs of the two lines are different.

c(1,2,3) creates a vector, while "c(1,2,3)" just reprints what is exactly in the quotation marks. (The quotation marks are the difference)

Question 2: Is c_1 a variable, or a function?

A variable (or object)– because c_1 is created through the function c()

Question 3: Is c_2 a variable, or a function?

A variable (or object)

Question 4: If c_1 and c_2 have different values, why?

c(1,2,3) creates a vector listing 1 2 and 3, while "c(1,2,3)" just reprints what is exactly in the quotation marks.

Question 5: What are the dimensoions of the matrix (i.e. how many rows and columns)?

3 rows, 1 column

Question 6: Write R code to retrieve the element of mat_1 that has a value of 3.

mat_1[which(mat_1== '3'),]
OR since I know the third row has 3: mat_1[3]

Question 7: Paste the code you used to create mat_2.

mat_2 = matrix(my_vec,nrow=2,ncol=3)

Question 8: Paste the code you used to create mat_3.

mat_3=matrix(my_vec,nrow=3,ncol=2)

Question 9: Did R use rows or columns to recycle the values in my_vec?

columns

Question 10: Create a matrix, mat_4 with a number of elements that is not a multiple of 3 and paste the code into the editor.

my_vec <- c(1,2,3,4)
mat_4=matrix(my_vec,nrow=3,ncol=2)

Question 11: How did R handle the recycling of values of my_vec in mat_4?

There is a warning, but it is cycling by column. The last replicate is removed because it does not fit within the dimensions of the matrix.

Question 12: For each of the 8 lines, answer the following:

Line 1

A. value: 5.2
B. [[]]
C. It retrieved the first entry in the list (position 1)

Line 2

A. value: 5.2
B. [[]]
C. It retrieved the first entry in the list (position 1), this time making the 1 numeric first, which doesn't change the outcome from the first line of code

Line 3

A. NULL
B.[[]]
C. Attempted to choose the element called "1" which does not exist

Line 4

A. value – "five point two"
B.[[]]
C. Attempted to choose the element called "one" which does not exist

Line 5

A. value – "five point two"
B. $
C. Attempted to choose the element called "one" which does not exist

Line 6

A. value – "five point two"
B. $
C. Attempted to choose the element called "one" which does not exist

Line 7

A. Error

Line 8

A. NULL
B. $
C. Attempted to choose the element called "1", which does not exist

A: Did the line return a 1: value, 2: error, or 3: NULL
B. If it did not return an error, what type of subsetting operation was used?
C. If it did not return an error, explain how R chose which element to retrieve.

Question 13: Identify which lines produced "five point two" and explain why.

Lines 4, 5, and 6 produced "five point two" because they are different ways of identifying the element named "one". This element contains "five point two".

Question 14: Identify which lines produced NULL output and explain why.

Lines 3 and 8 produced a NULL output. These were null because the code is looking for a named component that does not exist. None of the components in the list we created have names that can be isolated in the methods used in this code (i.e. named "1").

I think on my last submission there was an issue with defining the names of the list elements so I redid this code and got the correct answers:
names(my_list_1)<-c(“two”,”one”,”three”)
then these line of code will work and produce the contents of the component named “one” – “five point two”:

```
my_list_1[[“one”]]
my_list_1$one
my_list_1$”one”
```