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ECo 634 Lab 1 Report

1. Explain why the outputs of the two lines are different
   1. Adding “” to the line makes it a character input, rather than a numeric value. R cannot do calculations (create a vector) with character inputs, and so it just returns what was typed.
2. Is c\_1 a variable, or a function?
   1. Variable
3. Is c\_2 a variable, or a function?
   1. Variable
4. If c\_1 and c\_2 have different values, why?
   1. They have different values because c\_1 is a numeric input and c\_2 is a character input
5. What are the dimensions of the matrix (i.e. how many rows and columns)?
   1. 1 column by 3 rows
6. Write R code to retrieve the element of mat\_1 that has a value of 3.
   1. mat\_1 == 3
7. Paste the code you used to create mat\_2.
   1. mat\_2 = matrix(my\_vec, nrow = 2, ncol = 3, byrow = TRUE)
8. Paste the code you used to create mat\_3.
   1. mat\_3 = matrix(my\_vec, nrow = 3, ncol = 2, byrow = TRUE)
9. Did R use rows or columns to recycle the values in my\_vec?
   1. Rows because I specified in the matrix function
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.
    1. mat\_4 = matrix(my\_vec, nrow = 4, ncol = 2, byrow = TRUE)
11. How did R handle the recycling of values of my\_vec in mat\_4?
    1. It gave a warning that the number of elements was not a multiple of three, and then just filled as much as it could (ended with a 2 instead of a 3)
12. For each of the 8 lines, answer the following:
    1. Value, [[]], it chose the first element in the list
    2. Value, [[]], it chose the first element in the list because as.numeric converts “1” to a numeric value
    3. NULL, [[]], it looked for a component with the name “1”
    4. Value, [[]], it chose the list item with the name “one”
    5. Value, $, it chose the list item with the name “one”
    6. Value, $, it chose the list item with the name “one”. Same as the last one, despite the difference in quotations, because it is referring to a character value
    7. Error
    8. NULL, $, it looked for an item with the name “1”
13. Identify which lines produced output "five point two" and explain why.
    1. 4, 5, and 6. they all choose the list item with the name “one”, which is item #2, “five point two”
14. Identify which lines produced NULL output and explain why.
    1. 3 and 8. both ask R to print the list item with the name “1”, but none of the list items had the name “1”.