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Eco 634

Lab 1: R Fundamentals 1

1. The two outputs are different because adding quotations around the expression tells R that the code is a character data type, not a numeric or integer. Therefore, it will not generate a vector like it did when I ran c(1,2,3) and used the combine function without quotations.
2. C\_1 is a function because it utilizes the combine function to assign c\_1 to the integers 1, 2, and 3.
3. C\_2 is a variable because the quotation marks that surround “c(1, 2, 3)” do not allow R to use the combine function that is used in the first scenario. Therefore, it is a variable since the code simply stores the expression as c\_2.
4. C\_1 and c\_2 have different values because c\_1 is a function and c\_2 is a variable.
5. The dimensions of the matrix are 3 rows by 2 columns.
6. mat\_1[3,1]
7. mat\_2 <- matrix(my\_vec, nrow = 2, ncol = 3)
8. mat\_3 <- matrix(my\_vec, nrow= 3, ncol= 2)
9. R uses columns to distribute the values of my\_vec.

| **V1** | **V2** | |
| --- | --- | --- |
|  |  |  |
| **1** | 1 | 6 |
| **2** | 2 | 1 |
| **3** | 3 | 2 |
| **4** | 4 | 3 |
| **5** | 5 | 4 |

2. R used columns to distribute the values of mat\_4 and to recycle the values a second time.
   1. my\_list\_1[[1]] -> 5.2

my\_list\_1[[as.numeric("1")]] -> 5.2

my\_list\_1[["1"]] ->NULL

my\_list\_1[["one"]] -> “five point two”

my\_list\_1$one -> “five point two”

my\_list\_1$"one" -> “five point two”

my\_list\_1$1 -> Error: unexpected numeric constant in "my\_list\_1$1"

my\_list\_1$"1" -> NULL

* 1. my\_list\_1[[1]] -> position

my\_list\_1[[as.numeric("1")]] -> position

my\_list\_1[["1"]] -> N/A

my\_list\_1[["one"]] -> name

my\_list\_1$one -> name

my\_list\_1$"one" -> name

my\_list\_1$1 -> N/A

my\_list\_1$"1" -> N/A

* 1. my\_list\_1[[1]] -> R was able to perform this subset because I asked to find [[1]], or the first position in the list, and it recognized that it was 5.2.

my\_list\_1[[as.numeric("1")]] -> R was able to perform this subset because the value of the first position, (“1”), is 5.2.

my\_list\_1[["one"]] -> R was able to perform this subset because I renamed “five point two” as “one”.

my\_list\_1$one -> R was able to perform this subset because I renamed “five point two” as “one”.

my\_list\_1$"one" -> R was able to perform this subset because I renamed “five point two” as “one”.

1. The following lines produced “five point two”: my\_list\_1[["one"]], my\_list\_1$one, my\_list\_1$"one". These produced “five point two” because I renamed the string as “one” using the name function so that R could extract this string when I selected “one”.
2. The following lines produced a “NULL” output: my\_list\_1[["1"]] and my\_list\_1$"1". This produced a “NULL” output because R does not recognize “1” as a character. Typically, values that are surrounded by quotes are text characters, not numeric, so R cannot locate numeric values between quotes.