Stephanie Thrasher
Lab 1

1. The first line of code is a vector that will just print out 1, 2 and 3 while the second line of code will just print out “c(1,2,3) as it is a string of text.
2. C_1 is a variable. A variable is just storing information that the code can later use, like a vector. Any of the numbers in the vector can be called up later on.
3. This is also variable as the string of information is being stored for later purposes.
4. C_1 and c_2 have different values because they are different types of data. C_1 is numeric data and c_2 is character data. One is a line of text and the other is a series of numbers.
5. The matrix is 3 rows and 2 columns.
6. mat_1[3,1]
7.
```
> mat_2 = matrix(data=my_vec,nrow=2,ncol=3)
> mat_2
     [,1] [,2] [,3]
[1,]    1    3    5
[2,]    2    4    6
```
8.
```
> mat_3 = matrix(data=my_vec,nrow=3,ncol=2)
> mat_3
     [,1] [,2]
[1,]    1    4
[2,]    2    5
[3,]    3    6
```
9. R used the rows to distribute the numbers from my_vec.
10.
```
> mat_4 = matrix(data=c(my_vec,7),nrow=2,ncol=4)
Warning message:
In matrix(data = c(my_vec, 7), nrow = 2, ncol = 4) :
  data length [7] is not a sub-multiple or multiple of the number of rows [2]
> mat_4 = matrix(data=c(my_vec,7,8),nrow=2,ncol=4)
> mat_4
     [,1] [,2] [,3] [,4]
[1,]    1    3    5    7
[2,]    2    4    6    8
>
```
11. R could not handle 7 values in a 2x4 matrix, it needs to be a multiple or sub-multiple of the number of rows. To get the code to work 8 values had to be imputed.
12. a) value, position, the value of 5.2 was located in the “mynum” variable, which was the first item on the list. The line of code located it in the list. b) value, position, the position value that was put into the function will take the variable at that location in the list and return it as what was stored in the variable. c) null, name, the function tried to call 1 as a name in the list but that does not exist so it returned null. d) value, name, this function called the name one which is the ‘mystring’ variable in the code. This would return what was stored in the variable. e) value, name, this code called the name ‘one’ in the code which is equal to the ‘mystring’ variable. f) value, name, this is very similar to the one above except this uses quotation marks around the word ‘one’, which are unnecessary. g) error, position. h) null, name, this code tried to call the name “1” which does not exist in the list, so it returned as null.

13. Code lines 4, 5, and 6 returned “five point two”. This is because in each one of the codes the name “one” was called which was the name for the mystring variable that held the ‘five point two’ string.
14. Lines 3 and 8 returned null because they tried to call 1 as a name instead of a position. The name 1 does not exist in this code.