Chloe Lang
Professor Nelson
September 12, 2021
DataCamp Assignment: R Basics

Variables
1. This is a string of characters type of data in variable a.
2. b1 contains numeric data
3. b2 contains character data.
4. When you try to add b1 and b2 you get an error message. This is because b1 contains numeric data while b2 contains character data.
5. b1 and c1 are not the same type. b1 is a number variable where c1's variable contains characters.
6. When you try to add b1 and c1 you get an error code. This is because you are trying to add two objects of different measurements. (i.e. apples to oranges).

Vectors
7. Code:
```
> my_var <- "v1"
> v1 <- c(-2, -1, 0, 1, 2)
> v1
[1] -2 -1  0  1  2
```

8. Code:
```
> v2 <- v1*3
> v2
[1] -6 -3  0  3  6
```

9. Code:
```
> sum(v2)
[1] 0
```

Matrices
10. Code:
```
my_var <- "vec_4"
vec_4 <- c(1:12)
mat_1 <-matrix(vec_4, nrow=3, ncol = 4, byrow=TRUE)
 mat_1

     [,1] [,2] [,3] [,4]
[1,]    1    2    3    4
[2,]    5    6    7    8
[3,]    9   10   11   12
```

11. Code:

```
 mat_2 <-matrix(vec_4, nrow=3, ncol=4, byrow=FALSE)
 mat_2
     [,1] [,2] [,3] [,4]
[1,]    1    4    7   10
[2,]    2    5    8   11
[3,]    3    6    9   12
```

Lists

12. Code:

```
> my_list_1 <- list(5.2, "five point two", (0:5))
 > names(my_list_1) <-c("two","one", "three")
```

13. Code: `> my_list_1[[3]]`

14. Code: `> my_list_1[["one"]]`

Logical Tests and Subsetting Questions

15. Code:

```
> my_vec = rep(1:3, 5)
 > my_vec
 [1] 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3
 > my_var <- "my_bool_vec"
 > my_var == "my_bool_vec"
 [1] TRUE
 > my_bool_vec <- my_vec
```

16. Code:

```
> my_bool_vec
 [1] 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3
 > my_bool_vec ==my_vec[[3]]
 data.frame(my_vec, my_bool_vec)
 > my_bool_vec [[3]]
```