

DataCamp_Intro_to_R.R

Feipeng Huang

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```
#DataCamp: Intro to R
#Feipeng Huang

#Variables
a = "Feipeng"
b1 = 45.6
b2 = "45.6"
c1 = 0:3
#b1 + b2
b1 + c1

## [1] 45.6 46.6 47.6 48.6

#Q1. character
#Q2. numeric
#Q3. character
#Q4. Adding b1 and b2 returns error message "non-numeric argument to binary operator" because b1 and b2 are two types of data.
#Q5. Yes, they are both numerics.
#Q6. b1 and c1 are both numerics. b1 has 1 element and c1 has 4 elements.
When adding them together, b1 adds to each element in c1, giving "45.6 46.6 47.6 48.6".

#Vectors
#Q7
v1 = c(-2:2)
v1

## [1] -2 -1  0  1  2

#Q8
v2 = c(v1*3)
v2

## [1] -6 -3  0  3  6

#Q9
sum(v2)

## [1] 0

#Matrices
vec_4 = c(1:12)
```

#Q10

```
mat_1 = matrix(vec_4, byrow = TRUE, nrow = 3, ncol = 4)
mat_1
```

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

#Q11

```
mat_2 = matrix(vec_4, byrow = FALSE, nrow = 3, ncol = 4)
mat_2
```

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

#Lists

#Q12

```
third = c(0:5)
my_list_1 = list(5.2, "five point two", third)
names(my_list_1) = c("two", "one", "three")
my_list_1
```

```
## $two
## [1] 5.2
##
## $one
## [1] "five point two"
##
## $three
## [1] 0 1 2 3 4 5
```

#Q13

```
my_list_1[[3]]
```

```
## [1] 0 1 2 3 4 5
```

#Q14

```
my_list_1[["one"]]
```

```
## [1] "five point two"
```

#Logical Tests and Subsetting

#Q15

```
my_vec = c(rep(1:3, 5))
my_vec
```

```
## [1] 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3
```

```

my_bool_vec = my_vec == 3
my_bool_vec

## [1] FALSE FALSE TRUE FALSE FALSE TRUE FALSE FALSE TRUE FALSE FALSE
TRUE
## [13] FALSE FALSE TRUE

data.frame(my_vec, my_bool_vec)

##      my_vec my_bool_vec
## 1         1      FALSE
## 2         2      FALSE
## 3         3       TRUE
## 4         1      FALSE
## 5         2      FALSE
## 6         3       TRUE
## 7         1      FALSE
## 8         2      FALSE
## 9         3       TRUE
## 10        1      FALSE
## 11        2      FALSE
## 12        3       TRUE
## 13        1      FALSE
## 14        2      FALSE
## 15        3       TRUE

#Q16
my_vec[my_bool_vec]

## [1] 3 3 3 3 3

```