

RWorksheet_Gerona#2.Rmd

Mariel M. Gerona

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1. Set up a vector name

```
d age age <- c(34, 28, 22, 36, 27, 18, 52, 39, 42, 29, 35, 31, 27, 22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 42, 53, 41, 51, 35, 24, 33, 41)
```

a. How many data points?

```
length(age) # Output: 34
```

2. Find the reciprocal of the values for age

```
reciprocalage <- 1 / age reciprocalage # Output: A vector of reciprocals
```

3. Assign new__age

```
newage <- c(age, 0, age) newage # Output: A vector containing age, 0, and age again
```

4. Sort the values for age

```
sortedage <- sort(age) sortedage # Output: Sorted age values
```

5. Find the minimum and maximum value for age

```
minage <- min(age) maxage <- max(age) minage # Output: Minimum age value maxage # Output: Maximum age value
```

6. Set up a vector named data

```
data <- c(2.4, 2.8, 2.1, 2.5, 2.4, 2.2, 2.5, 2.3, 2.5, 2.3, 2.4, 2.7)
```

a. How many data points?

```
length(data) # Output: 12
```

7. Generates a new vector for data where you double every value

```
doubleddata <- data * 2 doubleddata # Output: A vector with doubled values of data
```

8. Generate sequences

```
seq1to100 <- seq(1, 100) # 8.1 Integers from 1 to 100 seq20to60 <- seq(20, 60) # 8.2 Numbers from 20 to 60
mean20to60 <- mean(seq(20, 60)) # 8.3 Mean of numbers from 20 to 60 sum51to91 <- sum(seq(51, 91)) #
8.4 Sum of numbers from 51 to 91
```

a. How many data points?

```
length(seq1to100) # Output: 100 length(seq20to60) # Output: 41 length(sum51to91) # Output: 41
```

b. Output of sequences

```
seq1to100 seq20to60 mean20to60 sum51to91
```

8.5 Maximum data points until 10

```
seq1to100max10 <- seq(1, 10) seq1to100max10 # Output: Integers from 1 to 10
```

9. Print a vector with integers not divisible by 3, 5, or 7

```
notdivisible <- Filter(function(i) { all(i %% c(3, 5, 7) != 0) }, seq(1, 100)) notdivisible # Output: A vector
of filtered integers
```

10. Generate a sequence backwards of the integers from 1 to 100

```
backwardseq <- seq(100, 1) backwardseq # Output: A vector counting backward
```

11. List multiples of 3 or 5 below 25 and find the sum

```
multiples3or5 <- Filter(function(x) x %% 3 == 0 | x %% 5 == 0, seq(1, 24)) summultiples <-
sum(multiples3or5) multiples3or5 # Output: A vector of multiples summultiples # Output: Sum of multiples
```

a. How many data points?

```
length(multiples3or5) # Output: Number of multiples
```

12. Enter the statement and describe the output

```
x <- {0 + x + 5 + }
```

Output: An error occurs because x is not defined.

13. Set up a vector named score

```
score <- c(72, 86, 92, 63, 88, 89, 91, 92, 75, 75, 77) x2 <- score[2] # Output: 86 x3 <- score[3] # Output: 92
x2 x3
```

14. Create a vector with NA

```
a <- c(1, 2, NA, 4, NA, 6, 7) # a. Change NA to 999 print(a, na.print="-999") # Output: Vector with -999 instead of NA
```

15. Special function call

```
name <- readline(prompt="Input your name:") age <- readline(prompt="Input your age:") print(paste("My name is", name, "and I am", age, "years old.)) print(R.version.string) # Output: R version information
```