**R Vectors**

R Vectors are the same as the [arrays](https://www.geeksforgeeks.org/r-array/) in R language which are used to hold multiple data values of the same type. One major key point is that in [R Programming Language](https://www.geeksforgeeks.org/r-programming-language-introduction/) the indexing of the vector will start from ‘1’ and not from ‘0’. We can create numeric vectors and character vectors as well.

**Creating a vector**

A vector is a basic data structure that represents a one-dimensional array. to create a array we use the “c” function which the most common method use in R Programming Language.

# R program to create Vectors we can use the c function to combine the values as a vector.

# By default the type will be double

X<- c(61, 4, 21, 67, 89, 2)

cat('using c function', X, '\n')

# seq() function for creating a sequence of continuous values.

# length.out defines the length of vector.

help(seq)

Y<- seq(1, 10, length.out = 5)

cat('using seq() function', Y, '\n')

# use':' to create a vector of continuous values.

Z<- 2:7

cat('using colon', Z)

**Types of R vectors**

Vectors are of different types which are used in R. Following are some of the types of vectors:

**Numeric vectors**

Numeric vectors are those which contain numeric values such as integer, float, etc.

# R program to create numeric Vectors creation of vectors using c() function.

v1<- c(4, 5, 6, 7)

# display type of vector

typeof(v1)

# by using 'L' we can specify that we want integer values.

v2<- c(1L, 4L, 2L, 5L)

# display type of vector

typeof(v2)

**Character vectors**

Character vectors in R contain alphanumeric values and special characters.

# R program to create Character Vectors by default numeric values are converted into characters

v1<- c('geeks', '2', 'hello', 57)

# Displaying type of vector

typeof(v1)

**Logical vectors**

Logical vectors in R contain Boolean values such as TRUE, FALSE and NA for Null values.

# R program to create Logical Vectors

# Creating logical vector using c() function

v1<- c(**TRUE**, **FALSE**, **TRUE**, **NA**)

# Displaying type of vector

typeof(v1)

**Length of R vector**

In R, the length of a vector is determined by the number of elements it contains. we can use the length() function to retrieve the length of a vector.

# Create a numeric vector

x <- c(1, 2, 3, 4, 5)

# Find the length of the vector

length(x)

# Create a character vector

y <- c("apple", "banana", "cherry")

# Find the length of the vector

length(y)

# Create a logical vector

z <- c(TRUE, FALSE, TRUE, TRUE)

# Find the length of the vector

length(z)

**Accessing R vector elements**

Accessing elements in a vector is the process of performing operation on an individual element of a vector. There are many ways through which we can access the elements of the vector. The most common is using the ‘[]’, symbol.

# R program to access elements of a Vector accessing elements with an index number.

X<- c(2, 5, 18, 1, 12)

cat('Using Subscript operator', X[2], '\n')

# by passing a range of values inside the vector index.

Y<- c(4, 8, 2, 1, 17)

cat('Using combine() function', Y[c(4, 1)], '\n')

**Modifying a R vector**

Modification of a Vector is the process of applying some operation on an individual element of a vector to change its value in the vector. There are different ways through which we can modify a vector:

# R program to modify elements of a Vector

# Creating a vector

X<- c(2, 7, 9, 7, 8, 2)

# modify a specific element

X[3] <- 1

X[2] <-9

cat('subscript operator', X, '\n')

# Modify using different logics.

X[1:5]<- 0

cat('Logical indexing', X, '\n')

# Modify by specifying

# the position or elements.

X<- X[c(3, 2, 1)]

cat('combine() function', X)

**Deleting a R vector**

Deletion of a Vector is the process of deleting all of the elements of the vector. This can be done by assigning it to a NULL value.

# R program to delete a Vector

# Creating a Vector

M<- c(8, 10, 2, 5)

# set NULL to the vector

M<- **NULL**

cat('Output vector', M)

Also go through:

<https://www.geeksforgeeks.org/operations-on-vectors-in-r/>