

Actividad 1

Análisis de biología computacional BT1013.525

Víctor Manuel Puga Ruiz A01568636

1

```
x <- c(10, 11, 13, -1, 6, 3)
print(x)
```

```
## [1] 10 11 13 -1 6 3
```

2

```
est.x <- c(
  mean(x), # mean
  sd(x),   # standard deviation
  var(x)   # variance
)
print(est.x)
```

```
## [1] 7.000000 5.329165 28.400000
```

3

```
my.seq <- seq(20, 50)
print(my.seq)
```

```
## [1] 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
## [26] 45 46 47 48 49 50
```

```
my.mean <- mean(c(20:60))
print(my.mean)
```

```
## [1] 40
```

```
my.sum <- sum(c(51:91))
print(my.sum)
```

```
## [1] 2911
```

4

```
pool <- c(-100:50)
my.sample <- sample(pool, 10)
print(my.sample)
```

```
## [1] 18 -57 30 -14 -86 -70 -20 28 -71 -27
```

5

```
fb <- numeric(10)
fb[1] <- fb[2] <- 1

for (i in 3:10) {
  fb[i] <- fb[i-2] + fb[i-1]
}

print(fb)
```

```
## [1] 1 1 2 3 5 8 13 21 34 55
```

6

```
vec <- c(10, 20, 30, 4, 50, -60)

cat("min", min(vec), "\n")
```

```
## min -60
```

```
cat("max", max(vec), "\n")
```

```
## max 50
```

7

```
multiplica <- function(a, b) {
  if (length(a) == length(b)) {
    a * b
  }
}

print(multiplica(c(10, 20), c(3, 4)))
```

```
## [1] 30 80
```

8

```
cuenta <- function(vec, search) {
  total <- 0

  for (el in vec) {
    if (el == search) {
      total <- total + 1
    }
  }

  total
}
```

```
print(cuenta(c(10, 20, 10, 7, 24, 7, 5), 7))
```

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

9

```
enesimo <- function(vec, n) {  
  res <- c(vec[1])  
  for (i in seq(n+1, length(vec), by = n)) {  
    res <- append(res, vec[i])  
  }  
  res  
}
```

```
v <- 1:100
```

```
print(enesimo(v, 5))
```

```
## [1] 1 6 11 16 21 26 31 36 41 46 51 56 61 66 71 76 81 86 91 96
```