

Worksheet 2

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2024-09-30

```
Sequence <- c("-5", "-4", "-3", "-2", "-1", "0", "1", "2", "3", "4", "5")

x <- 1:7 # The value is 1,2,3,4,5,6,7

seq(1, 3, by=0.2) #The value of value of X is added to 1 until it reaches the value 3

## [1] 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0

ages <- 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", "43", "53", "41", "51", "35", "24", "33", "41", "53", "40", "18", "44", "38", "41", "48", "27", "39", "19", "30", "61", "54", "58", "26", "18")

third_element <- ages[3]
ages[3]

## [1] "22"

second_element <- ages[2]
fourth_element <- ages[4]
print(c(second_element, fourth_element))

## [1] "28" "36"

modified_ages <- ages[-c(4, 12)]
modified_ages

## [1] "34" "28" "22" "27" "18" "52" "39" "42" "29" "35" "27" "22" "37" "34" "19"
## [16] "20" "57" "49" "50" "37" "46" "25" "17" "37" "43" "53" "41" "51" "35" "24"
## [31] "33" "41" "53" "40" "18" "44" "38" "41" "48" "27" "39" "19" "30" "61" "54"
## [46] "58" "26" "18"

x <- c("first" = 3, "second" = 0, "third" = 9)
vector_names <- names(x)
selected_elements <- x[c("first", "third")]
selected_elements #Accessing x[c("first", "third")] retrieves the values associated with the names "first" and "third"

## first third
##      3      9

x <- -3:2

x[2] <- 0

months <- c("Jan", "Feb", "Mar", "Apr", "May", "Jun")
prices_per_liter <- c(52.50, 57.25, 60.00, 65.00, 74.25, 54.00)
purchase_quantity <- c(25, 30, 40, 50, 10, 45)

diesel_data <- data.frame(Month = months, Price_per_liter Php = prices_per_liter, Purchase_quantity_Li
```

```
diesel_data
```

```
##   Month Price_per_liter_Php Purchase_quantity_Liters
## 1   Jan                52.50                    25
## 2   Feb                57.25                    30
## 3   Mar                60.00                    40
## 4   Apr                65.00                    50
## 5   May                74.25                    10
## 6   Jun                54.00                    45
```

```
expenditures <- diesel_data$Price_per_liter_Php * diesel_data$Purchase_quantity_Liters
```

```
average_expenditure <- weighted.mean(diesel_data$Price_per_liter_Php, diesel_data$Purchase_quantity_Liters)
average_expenditure
```

```
## [1] 59.2625
```

```
data_lengths <- rivers
num_elements <- length(data_lengths)
total_sum <- sum(data_lengths)
mean_value <- mean(data_lengths)
median_value <- median(data_lengths)
variance_value <- var(data_lengths)
sd_value <- sd(data_lengths)
min_value <- min(data_lengths)
max_value <- max(data_lengths)
```

```
stats_vector <- c(num_elements, total_sum, mean_value, median_value,
                  variance_value, sd_value, min_value, max_value)
```

```
stats_vector
```

```
## [1] 141.0000 83357.0000 591.1844 425.0000 243908.4086 493.8708
## [7] 135.0000 3710.0000
```

```
data <- c(length(rivers),
          sum(rivers),
          mean(rivers),
          median(rivers),
          var(rivers),
          sd(rivers),
          min(rivers),
          max(rivers))
```

```
print(data)
```

```
## [1] 141.0000 83357.0000 591.1844 425.0000 243908.4086 493.8708
## [7] 135.0000 3710.0000
```

```
ranking <- c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25)
pay <- c(67, 90, 225, 110, 90, 332, 302, 41, 52, 88, 55, 44, 55, 40, 233, 34, 40, 47, 75, 25, 39, 45, 30)
```

```
rowling_index <- 19
ranking[rowling_index] <- 15
pay[rowling_index] <- 90
```