

# RWorkshee\_\_Sobusa#3a.rmd

Nexon Sobusa

2024-09-30

#1. Using Vectors # a. First 11 uppercase letters `first_11 <- LETTERS[1:11]`

## **b. Odd numbered letters**

`odd_letters <- LETTERS[seq(1, 26, by = 2)]`

## **c. Vowels in uppercase**

`vowels <- LETTERS[c(1, 5, 9, 15, 21)]`

## **d. Last 5 lowercase letters**

`last_5_lowercase <- letters[22:26]`

## **e. Letters 15 to 24 in lowercase**

`lower_15_24 <- letters[15:24]`

#2. Average Temperatures (Vector and Dataframe) # a. Create character vector for cities `city <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")`

## **b. Create numeric vector for temperatures**

`temp <- c(42, 39, 34, 34, 30, 27)`

## **c. Combine city and temperature into dataframe**

`city_temp_df <- data.frame(City = city, Temperature = temp)`

## **d. Change column names**

`names(city_temp_df) <- c("City", "Temperature")`

## **e. Display structure of the dataframe**

`str(city_temp_df)`

## **f. Rows 3 and 4 content**

```
row_3_4 <- city_temp_df[3:4, ]
```

## **g. Display city with highest and lowest temperature**

```
highest_temp_city <- city_temp_df[which.max(city_temp_df$Temperature), "City"]  
lowest_temp_city <- city_temp_df[which.min(city_temp_df$Temperature), "City"]
```

#3. Using Matrices # a. Create a matrix with values 1 to 8 and 11 to 14  
matrix\_values <- matrix(c(1:8, 11:14), nrow = 3, ncol = 4)

## **b. Multiply matrix by 2**

```
matrix_times_two <- matrix_values * 2
```

## **c. Content of row 2**

```
row_2 <- matrix_times_two[2, ]
```

## **d. Display columns 3 and 4 from row 1 and row 2**

```
cols_3_4_row_1_2 <- matrix_times_two[1:2, 3:4]
```

## **e. Display columns 2 and 3, row 3**

```
cols_2_3_row_3 <- matrix_times_two[3, 2:3]
```

## **f. Display only column 4**

```
column_4 <- matrix_times_two[, 4]
```

## **g. Name rows and columns**

```
rownames(matrix_times_two) <- c("isa", "dalawa", "tatlo")  
colnames(matrix_times_two) <- c("uno", "dos", "tres", "quatro")
```

## **h. Reshape matrix to 2 columns and 6 rows**

```
dim(matrix_values) <- c(6, 2)
```

#4. Using Arrays # a. Create an array with repeated numeric values  
array\_values <- array(rep(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1), 2), dim = c(2, 4, 3))

## **b. Check the dimensions of the array**

```
array_dims <- dim(array_values)
```

### **c. Name the rows and columns, and dimensions**

```
dimnames(array_values) <- list(letters[1:2], LETTERS[1:4], c("1st-Dimensional Array", "2nd-Dimensional Array", "3rd-Dimensional Array"))
```