RWorkshee_Sobusa#3a.rmd

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2024-09-30

1. Using Vectors

Part 1a: First 11 letters from LETTERS vector

first_11_letters <- LETTERS[1:11] print(first_11_letters)

Part 1b: Odd numbered letters

odd_letters <- LETTERS[seq(1, 26, 2)] print(odd_letters)

Part 1c: Vowels from LETTERS

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

Part 1d: Last 5 lowercase letters from letters vector

last_5_letters <- letters[22:26] print(last_5_letters)

Part 1e: Letters between 15 and 24 in lowercase

subset_letters <- letters[15:24] print(subset_letters)

2. Working with Temperature Data

Part 2a: Character vector for cities

city <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City") print(city)

Part 2b: Temperature vector

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

Part 2c: Creating a data frame

temp_data <- data.frame(City = city, Temperature = temp) print(temp_data)

Part 2d: Renaming columns (already done in Part 2c)

print(temp_data)

Part 2e: Print structure of data frame

str(temp_data)

Part 2f: Content of row 3 and row 4

print(temp_data[3:4,])

Part 2g: City with the highest and lowest temperature

max_temp_city <- temp_data[which.max(temp_data$Temperature), "City"] $min_temp_city <- temp_data[which.min(temp_data$$
"City"]

Use message to print outputs

message("City with highest temperature:", max_temp_city) message("City with lowest temperature:",
min_temp_city)

3. Working with Matrices

Part 3a: Create a matrix with values from 1-8 and 11-14

matrix_data <- matrix(c(1:8, 11:14), nrow=3, ncol=4) print(matrix_data)

Part 3b: Multiply the matrix by 2

mult_matrix <- matrix_data * 2 print(mult_matrix)

Part 3c: Content of row 2

print(matrix_data[2,])

Part 3d: Display columns 3 and 4 in rows 1 and 2

print(matrix_data[1:2, 3:4])

Part 3e: Display columns 2 and 3 in row 3

print(matrix_data[3, 2:3])

Part 3f: Display column 4

print(matrix_data[, 4])

Part 3g: Name rows and columns

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

Part 3h: Reshape matrix to 2 columns and 6 rows

dim(matrix_data) <- c(6, 2) print(matrix_data)

4. Using Arrays

Part 4a: Create a 3D array with repeated values

array_data <- array(rep(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1), 2), dim=c(2, 4, 3)) print(array_data)

Part 4b: Check array dimensions

print(dim(array_data))

Part 4c: Name rows, columns, and dimensions

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