RWorksheets_lauron#3a.Rmd

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2025-10-13

#1 C_letters <- LETTERS[1:26] C_letters #output #[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" #[19] "S" "T" "U" "V" "W" "X" "Y" "Z"

#small s_letters <- letters[1:26]

s_letters

[1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s"

#[20] "t" "u" "v" "w" "x" "y" "z"

#a first 11 letters

first_eleven <- LETTERS[1:11] first_eleven #[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K"

#b odd vector

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

odd_num #[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K"

#c vowels

vowel_letters <- LETTERS[LETTERS%in% c("A","E","I","O","U")] vowel_letters #[1] "A" "E" "I" "O" "U"

#d last lowercase vector

last_five <- letters[22:26] last_five #[1] "v" "w" "x" "y" "z"

#e letter between 15 to 24 letterfift_twenny <- letters[15:24] letterfift_twenny #[1] "o" "p" "q" "r" "s" "t" "u" "v" "w" "x"

#2 #a city <- c("Tuguegarao City"," Manila","Iloilo City","Tacloban","Samal Island", "Davao City") city #output #[1] "Tuguegarao City" " Manila" "Iloilo City" "Tacloban"
#[5] "Samal Island" "Davao City"

#2b temp <- c(42, 39, 34, 34, 30,27) temp #[1] 42 39 34 34 30 27

#2c city_temp <- data.frame(city,temp) city_temp #output # city temp

#1 Tuguegarao City 42

#2 Manila 39

#3 Iloilo City 34

#4 Tacloban 34

#5 Samal Island 30

#6 Davao City 27

#2d

names(city_temp) <- c("City", "Temperature") city_temp

#output

#City Temperature

#1 Tuguegarao City 42

#2 Manila 39

#3 Iloilo City 34

#4 Tacloban 34

#5 Samal Island 30

#6 Davao City 27

#2e

str(city_temp) #'data.frame': 6 obs. of 2 variables:

$ City : chr "Tuguegarao City" " Manila" "Iloilo City" "Tacloban" . . .

$ Temperature: num 42 39 34 34 30 27

-it separates the two variables by their name and specify the types.

#2f

city_temp[3:4,]

#output

#City Temperature

#3 Iloilo City 34

#4 Tacloban 34

#2g lowest and highest temp

highest_temp_city <-city_temp[which.max(city_temp$Temperature),] highest_temp_city #highest temp # 1 Tuguegarao City 42

lowest_temp_city <- city_temp[which.min(city_temp$Temperature),] lowest_temp_city #Lowest City Temperature # 6 Davao City 27

#Matrices

#2a

matrix_one <- matrix(c(1:8, 11:14), ncol=4, nrow = 3) matrix_one #output #[,1] [,2] [,3] [,4] #[1,] 1 4 7 12 #[2,] 2 5 8 13 #[3,] 3 6 11 14

#2b

matrix_two <- matrix_one * 2 matrix_two #output #[,1] [,2] [,3] [,4] #[1,] 2 8 14 24 #[2,] 4 10 16 26 #[3,] 6 12 22 28

#2c

matrix_r <- matrix_one[2,] matrix_r #[1] 2 8

#2d matrix_one[1:2, 3:4] #[,1] [,2] #[1,] 7 12 #[2,] 8 13

#2e matrix_one[3, 2:3] #[1] 6 11

#2f matrix_one[, 4] #[1] 12 13 14 #2g rownames(matrix_two) <- c("isa", "dalawa", "tatlo") colnames(matrix_two) <- c("uno", "dos", "tres", "quatro") print(matrix_two) #output #uno dos tres quatro #isa 2 8 14 24 #dalawa 4 10 16 26 #tatlo 6 12 22 28

#2h dim(matrix_one) <- c(6, 2) matrix_one # [,1] [,2] #[1,] 1 7 #[2,] 2 8 #[3,] 3 11 #[4,] 4 12 #[5,] 5 13 #[6,] 6 14

#Array #3a values <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1) values_repeated <- rep(values, 2)

array_one <- array(values_repeated, dim = c(2, 4, 3)) array_one #output #, , 1

[,1] [,2] [,3] [,4]

#[1,] 1 3 7 9 #[2,] 2 6 8 0

#, , 2

[,1] [,2] [,3] [,4]

#[1,] 3 5 1 3 #[2,] 4 1 2 6

#, , 3

[,1] [,2] [,3] [,4]

#[1,] 7 9 3 5 #[2,] 8 0 4 1

#3b length(dim(array_one)) #[1] 3

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

A B C D

#a 1 3 7 9 #b 2 6 8 0

#, , 2nd-Dimensional Array

A B C D

#a 3 5 1 3 #b 4 1 2 6

#, , 3rd-Dimensional Array

A B C D

#a 7 9 3 5 #b 8 0 4 1 "'