

#1. There is a built-in vector `LETTERS` letters #a. You need to produce a vector that contains the first 11 letter. `LETTERS[1:11]` letters[1:11] #b. Produce a vector that contains the odd numbered letters. `LETTERS[x=seq(1,26,by=2)]` letters[x=seq(1,26,by=2)] #c. Produce a vector that contains the vowels `vowels <- LETTERS[c(1,5,9,15,21)]` vowels

#d. Produce a vector that contains the last 5 lowercase letters. `letters ending <- letters[c(22:26)]` ending

#e. Produce a vector that contains letters between 15 to 24 letters in lowercase. `fifteen24 <- letters[c(15:24)]` fifteen24

#2 Create a vector(not a dataframe). #a. What is the R code and its result for creating a character vector `seeT <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")` seeT

#b. The average temperatures in Celcius temperature `<- c(42, 39, 34, 34, 30, 27)` temperature

#c. Create a dataframe to combine the city and the temp by using `'data.frame()'`. `seeTtemperature <- data.frame(seeT,temperature)` seeTtemperature

#d. Associate the dataframe you have created names(`seeTtemperature`) `<- c("City", "Temperature")` seeTtemperature

#e. Print the structure by using `str()` function.

`str(seeTtemperature)` # the code displayed the structure of the seeTtemperature object # it displayed the contents of the data frame # it displayed the summary of the data frame

#f. From the answer in d, what is the content of row 3 and row 4 `rows <- seeTtemperature [3:4,]`

#g. From the answer in d, display the city with highest temperature and the city with the lowest temperature. `highesttemp <- seeTtemperature[which.max(seeTtemperature$Temperature),]` `highesttemp` `lowesttemp <- seeTtemperature[which.min(seeTtemperature$Temperature),]` lowesttemp

USING MATRICES

2a. What will be the R code for the #2 question and its result?

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

#2b. Multiply the matrix by two. What is its R code and its result? `mulMATRIX <- MATRIX * 2` mulMATRIX

#2c. What is the content of row 2? What is its R code? `row2 <- mulMATRIX [2,]` row2

#2d. What will be the R code if you want to display the column 3 and column 4 in row 1 and row 2? `twoColmrows <- mulMATRIX[c(1,2),c(3,4)]` twoColmrows

#2e. What is the R code if you want to display only the columns in 2 and 3, row 3? `twoColm1row <- mulMATRIX[3,c(2,3)]` twoColm1row

#2f. What is the R code if you want to display only the columns 4? `fourColm <- mulMATRIX[,4]` fourColm

#2g. Name the rows as isa, dalawa, tatlo and columns as uno, dos, tres, quatro for the matrix that was created in b. `dimnames(mulMATRIX) <- list(c("isa", "dalawa", "tatlo"), c("uno", "dos", "tres", "quatro"))` mulMATRIX

#2h. From the original matrix you have created in a, reshape the matrix by assigning a new dimension with `dim()`. `MATRIX dim(MATRIX) <- c(6,2)` MATRIX

ARRAYS

#3a. Create an array for the above numeric values.

```
Values <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1) RepValues <- rep(Values, each = 2)
```

```
ARRA <- array(RepValues, dim = c(2,4,3)) ARRA
```

#3b. How many dimensions do your array have? #the array has three dimensions

```
#3c. Name the rows as lowercase letters and columns as uppercase letters starting from the A. dim-  
names(ARRA) <- list( letters[1:2], # row names LETTERS[1:4], # col names c("1st-Dimensional Array",  
"2nd-Dimensional Array", "3rd-Dimensional Array") # dimnames )
```