Worksheet#3

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#Gabby

```
LETTERS <- c("A" , "B", "C", "D", "E", "F", "G", "H","I", "J", "K",
             "L", "M" ,"N", "O", "P", "Q", "R", "S",
             "T", "U","V", "W", "X","Y", "Z")

letters <- c("a", "b", "c", "d", "e","f", "g", "h",
             "i", "j", "k", "l", "m", "n", "o" ,"p",
             "q", "r", "s","t", "u", "v" ,"w" ,"x" ,"y" ,"z")
letters
```

#Based on the above vector LETTERS: # a. You need to produce a vector that contains the first 11 letters.

```
LETTERS[1:11]
```

#b. Produce a vector that contains the odd numbered letters.

```
letters[1:26 %% 2!= 0]
```

#c. Produce a vector that contains the vowels #Based on the above vector letters:

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

#Based on the above vector letters: #d. Produce a vector that contains the last 5 lowercase letters.

```
letters[21:26]
```

#e. Produce a vector that contains letters between 15 to 24 letters in lowercase.

```
letters[15:24]
```

#2a. What is the R code and its result for creating a character vector for the city/town of Tuguegarao City, Manila, Iloilo City, Tacloban, Samal Island, and Davao City? Name the object as city. The names should follow the same order as in the instruction.

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

city
```

#b. The average temperatures in Celcius are 42, 39, 34, 34, 30, and 27 degrees.Name the object as temp. Write the R code and its output. Numbers should also follow what is in the instruction.

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

#c. Associate the temperature temp with the city by using names() function. What is the R code and its result?

```
names(temp) <- city
temp
```

#d. From the answer in c, what is the content of index 5 and index 6? What is its R code?

```
temp[5:6]
```

#2. Create a matrix of one to eight and eleven to fourteen #with four columns and three rows.

#a. What will be the R code for the #2 question and its #result? `{}` `x2 <- matrix(data = c(1:8,11:14),3,4)` `x2`

#b. Multiply the matrix by two. What is its R code and its result? `{}` `x2*2`

#c. What is the content of row 2? What is its R code? `{} x2[2,]` #d. What will be the R code if you want to display the #column 3 and column 4 in row 1 and row 2? What is its #output `{}` `x2[c(1,2),c(3,4)]` #e. What is the R code is you want to display only the #columns in 2 and 3, row 3? What is its output

```
x2[c(3),c(2,3)]
```

#f. What is the R code is you want to display only the #columns 4? What is its output?

x2[,4]

#g. Name the rows as isa, dalawa, tatlo and columns as uno, #dos, tres, quatro for the matrix that was created in b∴ What is its R code #and corresponding output? `{}` `dimnames(x2) <- list(c("isa", "dalawa", "tatlo"),c("uno", "dos", "tres", "quatro"))` `x2`

#h. From the original matrix you have created in a, reshape #the matrix by assigning a new dimension with dim(). New dimensions should have 2 #columns and 6 rows. What will be the R code and its output? `{}` `dim(x2) <- c(6,2)` `x2`

#3. An array contains 1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1 #a. Create an array for the above numeric values. Each values will be repeated twice # What will be the R #code if you are to create a three-dimensional array with 4 columns and 2 rows. What will be its output? "`{} arr <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1) arr

value <- array(rep(arr, 2), dim = c(2,4,3)) value "`

#c. Name the rows as lowercase letters and columns as uppercase letters starting from the A. The array names should be "1st-Dimensional Array", "2nd-Dimenstional Array", and "3rd-Dimensional Array". What will be the R codes and its output? `'{}` `dimnames(value) <- list(letters[1:2], LETTERS[1:4], c("1st-Dimensional Array", "2nd-Dimential Array", "3rd-Dimensional Array"))` `value`