

RWorksheet_Quebral#3.rmd

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1. There is a built-in vector **LETTERS** contains the uppercase letters of the alphabet and **letters** which contains the lowercase letters of the alphabet.

Based on the above vector **LETTERS**:

a. You need to produce a vector that contains the first 11 letters.

```
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")

eleven <- Letters[1:11]
eleven
```

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

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

```
odd <- Letters[seq("1","26", by = 2)]
odd
```

```
## [1] "A" "C" "E" "G" "I" "K" "M" "O" "Q" "S" "U" "W" "Y"
```

#c. Produce a vector that contains the vowels

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

```
## [1] "A" "E" "I" "O" "U"
```

#d. Produce a vector that contains the last 5 lowercase letters.

```
last5 <- tail(letters,5)
last5
```

```
## [1] "v" "w" "x" "y" "z"
```

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

```
between <- letters[c(15:24)]
between
```

```
## [1] "o" "p" "q" "r" "s" "t" "u" "v" "w" "x"
```

#2. Create a vector(not a dataframe) with the average temperatures in April for Tuguegarao City, Manila, Iloilo City, Tacloban, Samal Island, and Davao City. The average temperatures in Celcius are 42, 39, 34, 34,

30, and 27 degrees.

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

#a. 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.

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

#b. The average temperatures in Celsius 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 <- mean(tempp)
temp
```

```
## [1] 34.33333
```

#c. Create a dataframe to combine the city and the temp by using 'data.frame()'. What is the R code and its result?

```
city_temp <- data.frame(tempp, place)
city_temp
```

```
##   tempp      place
## 1    42 Tuguegarao City
## 2    39        Manila
## 3    34      Iloilo City
## 4    34      Tacloban
## 5    30    Samal Island
## 6    27      Davao City
```

#d. Associate the dataframe you have created in 2.(c) by naming the columns using the names() function. Change the column names by using names() function as City and Temperature. What is the R code and its result?

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

```
##   Temperature      City
## 1          42 Tuguegarao City
## 2          39        Manila
## 3          34      Iloilo City
## 4          34      Tacloban
## 5          30    Samal Island
## 6          27      Davao City
```

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

```
str(city_temp)
```

```
## 'data.frame':   6 obs. of  2 variables:
## $ Temperature: num  42 39 34 34 30 27
## $ City       : chr  "Tuguegarao City" "Manila" "Iloilo City" "Tacloban" ...
```

It displayed the 2 variable and 6 objects on data frame.

#f. From the answer in d, what is the content of row 3 and row 4? What is its R code and its output?

```
row_content3 <- city_temp[3,]  
row_content4 <- city_temp[4,]
```

```
row_content3
```

```
##   Temperature      City  
## 3           34 Iloilo City
```

```
row_content4
```

```
##   Temperature      City  
## 4           34 Tacloban
```

#g. From the answer in d, display the city with highest temperature and the city with the lowest temperature. What is its R code and its output?

```
max_index <- max(city_temp$Temperature)  
max_index
```

```
## [1] 42
```

```
min_index <- min(city_temp$Temperature)  
min_index
```

```
## [1] 27
```

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

```
matrix(c(1,2,3,4,5,6,7,8,9,10,11),nrow=3,ncol=4)
```