RWorksheet_Mirabuena#3a

Jessa Mae Mirabuena

2022-10-25

```
#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.
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")
```

```
#a. You need to produce a vector that contains the first 11 letters.
LETTERS[1:11]
```

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

```
#b. Produce a vector that contains the odd numbered letters.
letters[1:26%%2!=0]
```

```
##  [1] "a" "c" "e" "g" "i" "k" "m" "o" "q" "s" "u" "w" "y"
```

```
#c. Produce a vector that contains the vowels
vowel <- LETTERS [c(1,5,9,15,21)]
vowel
```

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

```
#d. Produce a vector that contains the last 5 lowercase letters.
letters[15:24]
```

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

```
#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
```

```
## [1] "Tuguegarao City" "Manila"          "Iloilo City"     "Tacloban"
## [5] "Samal Island"    "Davao 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
```

```
## [1] 42 39 34 34 30 27
```

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

```
## Tuguegarao City          Manila     Iloilo City        Tacloban    Samal Island
##              42              39              34              34              30
##      Davao City
##              27
```

```r
#e. From the answer in d, what is the content of index 5 and index 6? What is its R code?
temp[5:6]
```

```
## Samal Island   Davao City
##           30           27
```

```r
#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?
matrx <- matrix(data=c(1:8,11:14),3,4)
matrx
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    4    7   12
## [2,]    2    5    8   13
## [3,]    3    6   11   14
```

```r
#b. Multiply the matrix by two. What is its R code and its result?
matrx*2
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    2    8   14   24
## [2,]    4   10   16   26
## [3,]    6   12   22   28
```

```r
#c. What is the content of row 2? What is its R code?
matrx[2,]
```

```
## [1]  2  5  8 13
```

```r
#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?
matrx[c(1,2),c(3,4)]
```

```
##      [,1] [,2]
## [1,]    7   12
## [2,]    8   13
```

```r
#e. What is the R code is you want to display only the columns in 2 and 3, row 3? What
#is its output?
matrx[c(3),c(2,3)]
```

```
## [1]  6 11
```

```r
#f. What is the R code is you want to display only the columns 4? What is its output?
matrx[,4]
```

```
## [1] 12 13 14
```

```
#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(matrx) <-list(c("isa","dalawa","tatlo"),c("uno", "dos", "tres", "quatro"))
matrx
```

```
##        uno dos tres quatro
## isa      1   4    7     12
## dalawa   2   5    8     13
## tatlo    3   6   11     14
```

```
#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(matrx) <-c(6,2)
matrx
```

```
##      [,1] [,2]
## [1,]    1    7
## [2,]    2    8
## [3,]    3   11
## [4,]    4   12
## [5,]    5   13
## [6,]    6   14
```

```
#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
num<-c(1,2,3,4,5,6,7,8,9,0,3,4,5,1)
num
```

```
##  [1] 1 2 3 4 5 6 7 8 9 0 3 4 5 1
```

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

```
## , , 1
##
##      [,1] [,2] [,3] [,4]
## [1,]    1    3    5    7
## [2,]    2    4    6    8
##
## , , 2
##
##      [,1] [,2] [,3] [,4]
## [1,]    9    3    5    1
## [2,]    0    4    1    2
##
## , , 3
##
##      [,1] [,2] [,3] [,4]
## [1,]    3    5    7    9
## [2,]    4    6    8    0
```

```
#b. How many dimensions do your array have?
#3
```

```r
#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-Dimentional Array", and
#"3rd-Dimensional Array". What will be the R codes and its output?
names(value) <- list(letters [1:2],LETTERS[1:4],
                     c("1st-Dimentional Array", "2nd-Dimentional Array",
                       "3rd-Dimentional Array"))
value
```

```
## , , 1
##
##      [,1] [,2] [,3] [,4]
## [1,]    1    3    5    7
## [2,]    2    4    6    8
##
## , , 2
##
##      [,1] [,2] [,3] [,4]
## [1,]    9    3    5    1
## [2,]    0    4    1    2
##
## , , 3
##
##      [,1] [,2] [,3] [,4]
## [1,]    3    5    7    9
## [2,]    4    6    8    0
##
## attr(,"names")
##  [1] "c(\"a\", \"b\")"
##  [2] "c(\"A\", \"B\", \"C\", \"D\")"
##  [3] "c(\"1st-Dimentional Array\", \"2nd-Dimentional Array\", \"3rd-Dimentional Array\")"
##  [4] NA
##  [5] NA
##  [6] NA
##  [7] NA
##  [8] NA
##  [9] NA
## [10] NA
## [11] NA
## [12] NA
## [13] NA
## [14] NA
## [15] NA
## [16] NA
## [17] NA
## [18] NA
## [19] NA
## [20] NA
## [21] NA
## [22] NA
## [23] NA
## [24] NA
```