RWorksheet3A.rmd

2023-10-04

```r
LETTERS<- c("A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L", "M", "N", "O", "P", "Q", "R", "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"
```

```r
letters<- c("a", "b", "c", "d", "e", "f", "g", "h", "i", "j", "k", "l", "m", "n", "o", "p", "q", "r" ,"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"
```

```r
head(LETTERS,11)
```

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

```r
indices <- c(1,3,5,7,9,11,13,15,17,19,21,23,25)
oddNumLetters <- LETTERS[indices]
print(oddNumLetters)
```

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

```r
indices<- c(1,5,9,15,21)
selectedE<-LETTERS[indices]
print(selectedE)
```

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

```r
tail(letters,5)
```

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

```r
indeces<- c(16:23)
LetterBetween<-letters[indices]
print(LetterBetween)
```

```
## [1] "a" "e" "i" "o" "u"
```

```r
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"
```

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

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

```r
AprilAveTemp <- data.frame (
  city = c("Tuguegarao City", "Manila", "Iloilo", "Tacloban", "Samal Island", "Davao City"),
  temp = c(42, 39, 34, 34, 30, 27)
```

```
)
str(AprilAveTemp)
```

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

```
colnames(AprilAveTemp)<- c("City", "Temperature")

print(AprilAveTemp)
```

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

```
#View(AprilAveTemp)
```

```
rows<-AprilAveTemp[c(3,4),]
rows
```

```
##       City Temperature
## 3   Iloilo          34
## 4 Tacloban          34
```

```
AprilAveTemp <- city

highestTemp <- max(AprilAveTemp)
highestTemp
```

```
## [1] "Tuguegarao City"
```

```
lowestTemp <- min(AprilAveTemp)
lowestTemp
```

```
## [1] "Davao City"
```

```
# Using Matrix
FMat<-matrix(c(1:8,11:14), ncol=4, nrow=3)
FMat
```

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

```
SMat <- (FMat * 2)
SMat
```

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

```
row2 <- SMat[2, ]
row2
```

```
## [1]  4 10 16 26
```

```
colRow <- SMat[1:2,3:4]
colRow
```

```
##      [,1] [,2]
## [1,]   14   24
## [2,]   16   26
```

```
colRow1 <- SMat[3,2:3]
colRow1
```

```
## [1] 12 22
```

```
col4 <- SMat[ ,4]
col4
```

```
## [1] 24 26 28
```

```
colnames(SMat) <- c("uno","dos","tres","quatro")
rownames(SMat) <- c("isa","dalawa","tatlo")
print(SMat)
```

```
##         uno dos tres quatro
## isa       2   8   14     24
## dalawa    4  10   16     26
## tatlo     6  12   22     28
```

```
dim(FMat) <- c(6, 2)
FMat
```

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

```
# Using Arrays
mArray<- array(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1))
mArray
```

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

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

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

```
threeD <- array(repA, dim = c(2, 4, 3))
threeD
```

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

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

```r
dim(threeD)
```

```
## [1] 2 4 3
```

```r
dimnames(threeD) <- list(c("a", "b"), c("A", "B", "C", "D"), c("1st-Dimensional Array", "2nd-Dimensional
print(threeD)
```

```
## , , 1st-Dimensional Array
##
##   A B C D
## a 1 2 3 6
## b 1 2 3 6
##
## , , 2nd-Dimensional Array
##
##   A B C D
## a 7 8 9 0
## b 7 8 9 0
##
## , , 3rd-Dimensional Array
##
##   A B C D
## a 3 4 5 1
## b 3 4 5 1
```