Rworksheet_Delfin#3a.Rmd

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1.

```
#a
first_11 <- LETTERS[1:11]
first_11
```

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

```
#{1}"A" "B' "C" "D" "E" "F" "G" "H" "I" "J" "K"

#b
oddNumLet <- LETTERS[1:26%%2 == 1]
oddNumLet
```

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

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

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

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

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

#d
smallLetters <- tail(letters,5)
smallLetters
```

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

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

#e
betweenLetters <- letters[15:24]
betweenLetters
```

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

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

#2

#a
city<-c("Tugue-garao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")
city
```

```
## [1] "Tugue-garao City" "Manila"           "Iloilo City"      "Tacloban"
## [5] "Samal Island"     "Davao City"
```

```
#[1] "Tugue-garao City" "Manila" "Iloilo City" "Tacloban" "Samal Island"
#[6] "Davao City"

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

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

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

citytemp<-data.frame(city,temp)
citytemp
```

```
##               city temp
## 1 Tugue-garao City   42
## 2           Manila   39
## 3      Iloilo City   34
## 4         Tacloban   34
## 5     Samal Island   30
## 6       Davao City   27
```

```
#          city temp
#1 Tugue-garao City   42
#2           Manila   39
#3      Iloilo City   34
#4         Tacloban   34
#5     Samal Island   30
#6       Davao City   27

#d
names(citytemp) <-c ("City","Temperature")
citytemp
```

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

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

#e
str(citytemp)
```

```
## 'data.frame':    6 obs. of  2 variables:
```

```
##  $ City       : chr  "Tugue-garao City" "Manila" "Iloilo City" "Tacloban" ...
##  $ Temperature: num  42 39 34 34 30 27
```

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

#f
row_3 <- citytemp[3,]
row_4 <- citytemp[4,]
print(row_3)
```

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

```
print(row_4)
```

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

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

#g
index_max_temp <- which.max(citytemp$Temperature)
index_min_temp <- which.min(citytemp$Temperature)

city_highest_temp <- citytemp$City[index_max_temp]
city_lowest_temp <- citytemp$City[index_min_temp]

print(paste("City with highest temperature:", city_highest_temp))
```

```
## [1] "City with highest temperature: Tugue-garao City"
```

```
print(paste("City with lowest temperature:", city_lowest_temp))
```

```
## [1] "City with lowest temperature: Davao City"
```

```
#[1] "City with highest temperature: Tugue-garao City"
#[1] "City with lowest temperature: Davao City"


#2 Using Matrix

mat <- matrix(c(1:8, 11:14), nrow = 3, ncol = 4, byrow = TRUE)
print(mat)
```

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

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

```r
result <- mat * 2
print(result)
```

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

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

row_2 <- mat[2, ]
print(row_2)
```

```
## [1] 5 6 7 8
```

```r
#[1] 5 6 7 8

subset <- mat[1:2, 3:4]
print(subset)
```

```
##      [,1] [,2]
## [1,]    3    4
## [2,]    7    8
```

```r
#[,1] [,2]
#[1,]    3    4
#[2,]    7    8

subset <- mat[3, 2:3]
print(subset)
```

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

```r
#[1] 12 13
```