R Markdown Worksheet#3a

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library(tinytex)

```
print <- LETTERS[1:11]
print
```

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

```
odd_letters <- LETTERS [seq(from = 1, to = length (LETTERS), by = 2)]
odd_letters
```

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

```
vowels_LETTERS <- c("A", "E", "I", "O", "U")
vowels_LETTERS
```

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

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

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

```
lowercase_last <- letters[15:24]
lowercase_last
```

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

```
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"
```

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

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

```
temp_data <- data.frame(City = city, Temperature = temp)
temp_data
```

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

```
## 6     Davao City         27
```

```
str(temp_data)
```

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

```
print<- temp_data[3:4,1:2]
print
```

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

```
high_temp_city <- temp_data$City[which.max(temp_data$Temperature)]
high_temp_city
```

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

```
lowest_temp_city <- temp_data$City[which.min(temp_data$Temperature)]
lowest_temp_city
```

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

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

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

```
multi_matrix <- matrix_num *2
multi_matrix
```

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

```
print <-multi_matrix [2, ]
print
```

```
## [1] 10 12 14 16
```

```
print <- multi_matrix [1:2, 3:4]
print
```

```
##      [,1] [,2]
## [1,]    6    8
## [2,]   14   16
```

```
print <- multi_matrix[3, 2:3]
print
```

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

```
print <- multi_matrix[, 4]
print
```

```
## [1]  8 16 28
```

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

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

```r
dim(matrix_num) <- c(6, 2)
matrix_num
```

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

```r
mi_array <- array(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1),
                  dim= c(2, 4, 3))
mi_array
```

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

```r
dim_array <- dim(mi_array)
dim_array
```

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

```r
dimnames(mi_array) <- list(c(letters[1:2]), c(LETTERS[1:4]),c("1st Dimensional Array", "2nd Dimensional
mi_array
```

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

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

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.