

WorkSheet3A

Khyllie irvgard andigan

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LETTERS letters

```
first_11_upper <- LETTERS[1:11] first_11_lower <- letters[1:11]
```

```
odd_upper <- LETTERS[seq(1, 26, by=2)] odd_lower <- letters[seq(1, 26, by=2)]
```

```
vowels_upper <- c("A", "E", "I", "O", "U") vowels_lower <- c("a", "e", "i", "o", "u")
```

```
last_5_lower <- letters[22:26] letters_15_to_24 <- letters[15:24]
```

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

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

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

```
city <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City") temp <-  
c(42, 39, 34, 34, 30, 27)
```

```
data <- data.frame(City = city, Temperature = temp) data names(data) <- c("City", "Temperature")  
str(data)
```

```
data[3, ] data[4, ]
```

```
highest_temp_city <- data[data$Temperature == max(data$Temperature), ] lowest_temp_city <-  
data[data$Temperature == min(data$Temperature), ]
```

```
highest_temp_city lowest_temp_city
```

```
data <- c(1:8, 11:14) my_matrix <- matrix(data, nrow = 3, ncol = 4, byrow = TRUE) my_matrix  
result_matrix <- my_matrix * 2 print(result_matrix) row_2 <- my_matrix[2, ] print(row_2) sub-  
set_columns <- my_matrix[1:2, 3:4] print(subset_columns) row_3_columns_2_3 <- my_matrix[3, 2:3]  
print(row_3_columns_2_3) column_4 <- my_matrix[, 4] print(column_4) rownames(my_matrix) <-  
c("isa", "dalawa", "tatlo") colnames(my_matrix) <- c("uno", "dos", "tres", "quatro") print(my_matrix)  
dim(my_matrix) <- c(6, 2) print(my_matrix)
```

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

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

```
repeated_values <- rep(values, each = 2)
```

```
my_array_3d <- array(repeated_values, dim = c(2, 4, 3))
```

```
print(my_array_3d)
```

```
dim(my_array_3d)
```

```
rownames(my_array_3d) <- letters[1:2] # 'a', 'b'
```

```
colnames(my_array_3d[,1]) <- LETTERS[1:4] # 'A', 'B', 'C', 'D' colnames(my_array_3d[,2]) <- LET-  
TERS[1:4] colnames(my_array_3d[,3]) <- LETTERS[1:4]
```

```
dimnames(my_array_3d) <- list(rownames(my_array_3d), colnames(my_array_3d[,1]), c("1st-Dimensional  
Array", "2nd-Dimensional Array", "3rd-Dimensional Array"))  
my_array_3d
```