**R Programming Assignment: 2**

1. **Can you write a program that converts a matrix into a one-dimensional array?**

row\_names = c("row1", "row2", "row3", "row4")

col\_names = c("col1", "col2", "col3", "col4")

M = matrix(c(1:16), nrow = 4, byrow = TRUE, dimnames = list(row\_names, col\_names))

print("Original Matrix:")

print(M)

result = as.vector(M)

print("1 dimensional array (column wise):")

print(result)

result = as.vector(t(M))

print("1 dimensional array (row wise):")

print(result)

1. **What are the functions provided by the R program?**

## Types of function in R Language

* **Built-in Function:**Built function R is sq(), mean(), max(), these function are directly call in the program by users.
* **User-defined Function:** R language allow us to write our own function.

1. **What are the R language's limitations?**
2. **Data Handling**

In R, objects are stored in physical memory. It is in contrast with other programming languages like Python. R utilizes more memory as compared to Python. It requires the entire data in one single place which is in the memory. It is not an ideal option when we deal with Big Data.

1. **Basic Security**

R lacks basic security. It is an essential part of most programming languages such as Python. Because of this, there are many restrictions with R as it cannot be embedded in a web-application.

1. **Complicated Language**

R is a very complicated language, and it has a steep learning curve. The people who don’t have prior knowledge or programming experience may find it difficult to learn R.

1. **Weak Origin**

The main disadvantage of R is, it does not have support for dynamic or 3D graphics. The reason behind this is its origin. It shares its origin with a much older programming language “S.”

1. **Lesser Speed**

R programming language is much slower than other programming languages such as MATLAB and Python. In comparison to other programming language, R packages are much slower.

1. **What is the best way to write commands in R?**

Once you have R environment setup, then it’s easy to start your R command prompt by just typing the following command at your command prompt − Usually, you will do your programming by writing your programs in script files and then you execute those scripts at your command prompt with the help of R interpreter called **Rscript**.

1. **What does the dim() function do?**

The DIM function returns the number of elements in a one-dimensional array or the number of elements in a specified dimension of a multidimensional array when the lower bound of the dimension is 1.

1. **Using the dim() functions, generate a 3-dimensional array of 24 elements in a**

**simple application.**

v = sample(1:5,24,replace = TRUE)

dim(v) = c(3,2,4)

print("3-dimension array:")

print(v)

1. **What is the best way to preserve data in R programming?**

To save data as an RData object, use the save function. To save data as a RDS object, use the saveRDS function. In each case, the first argument should be the name of the R object you wish to save. You should then include a file argument that has the file name or file path you want to save the data set to.