R-Introduction:

• R is an interpreted programming language used to analyze statistical information, graphical representation, reporting, and data modeling.

• R is the implementation of the S programming language, which is combined with lexical scoping semantics.

• Its most common use is to analyze and visualize data. R generally comes with the Command-line interface.

Evolution of R:

• R programming language was designed by Ross Ihaka and Robert Gentleman at the University of Auckland, New Zealand.

• The R Development Core Team currently develops R.

Why R programming Language:

• R programming is an open-source free language which is currently one of the most requested programming language in the Data Science job market.

• R is a a platform-independent language and it is used as a leading tool for machine learning, statistics, and data analysis.

• R programming language allows us to integrate with other languages (C, C++) and it has a vast community of users and it's growing day by day.

Advantages of R:

• R programming is platform independent which runs on any operating systems.

• In R, everyone is welcome to provide new packages, bug fixes, and code enhancements.

Disadvantages of R:

• In the R programming language, the standard of some packages is less than perfect.

• Although, R commands give little pressure to memory management. So R programming language may consume all available memory.

Applications of R:

- We use R for Data Science.
- R is used by many quantitative analysts as its programming tool.
- Tech giants like Google, Facebook, bing, Accenture, Wipro and many more using R nowadays.

R installation:

R programming is a very popular language and to work on that we have to install two things, i.e., R and RStudio. R and RStudio works together to create a project on R.

Installation of R:

1. First, we have to download the R setup from https://cloud.r-project.org/bin/windows/base/.

2. When we click on Download R for windows, our downloading will be started of R setup. Once the downloading is finished, we have to run the setup of R in the following way:

• Select the path where we want to download the R and proceed to Next.

• Select all components which we want to install, and then we will proceed to Next.

• In the next step, we have to select either customized start-up or accept the default, and then we proceed to Next.

• When we proceed to next, our installation of R in our system will get started.

• In the last, we will click on finish to successfully install R in our system.

Installation of RStudio:

1. First, we have to visit the RStudio official site.

(https://rstudio.com/products/rstudio/download/)

2. Select the RStudio desktop for open-source license and click on download.

3. Select the appropriate installer and download it. Once the downloading is finished, we have to run the setup of R in the following way:

• Click on Next on welcome page.

• Click on Install.

• Click on Finish.

- RStudio is ready to work.

Some basic command

1.Write a command to get the absolute value of -10.

→abs(-10)

10

2. Write a command to get the cell and floor value of 4.5.

→ print(ceiling(4.2))

5

→ print(floor(4.5))

4

3. Write a command to get the square root value of 10.

→print(sqrt(10))

3.162278

4. Write a command to get the exponential value of 2.

→ print(exp(2))

7.389056

5.Write a command to get the pi value.

→ print(pi)

3.141593

6. Write a command to get the logarithm value of 100.

→ print(log(100),base=10)

4.60517

→ print(log(100))

4.60517