

**A Report on Guest Lecture titled
“Julia Programming”
Organised by Department of Computer Applications
on 11.07.2024**



Report Submitted by: Mr. Saravanan Thirunavukkarasu, Assistant Professor, MCA

Resource Person: Dr. T. Srinivasa Rao, Professor & CoE, Indian Academy of PG(Autonomous), Bangalore

Mode: Offline (2:00 - 4:00 PM, Auditorium, MITS)

Participants: I Year MCA (160 students, 2023 Admitted)

Report Received on 29.07.2024

Department of Computer Applications (MCA) has organized a guest lecture on “Julia Programming” for I MCA (2023 Admitted) on 11.07.2024(Thursday) at the auditorium, MITS.

Objective:

This guest lecture aims to introduce you to Julia programming, an emerging programming language that is a new age of data science.

Dignitaries present:

- Dr. N. Naveen Kumar, Associate Prof & Head, Department of Computer Applications, MITS.
- Faculty members of the Department of Computer Applications.

Program Details:

The program started with an introduction about the resource person to the audience by Mr Saravanan Thirunavukkarasu, Assistant Professor, Department of Computer Applications, MITS. He has given a short note on Dr. T. Srinivasa Rao, who holds the position of Professor & CoE at the Indian Academy of PG, an autonomous institution in Bangalore. Enriched with his vast academic experience, he is well known for authoring several programming languages, including a book on Julia Programming.

The session was handed over to Dr. T. Srinivasa Rao by Dr. N. Naveen Kumar, Head of the Department, Department of Computer Applications, MITS, with his short speech about the resource person and the importance of learning new things daily.

Guest Lecture:

The resource person gave his lecture on Julia Programming with his presentation, and the contents are given below:

Julia is a high-level, high-performance dynamic programming language developed specifically for scientific computing. This language will benefit astronomy, engineering, data science, bioinformatics applications, and many more. As open-source software, we will always have it available throughout your working life. It can be used from the command line, program files or Jupyter Notebook.

Julia is a general-purpose, high-performance, flexible programming language that can be used to write any application. It is well-suited for scientific and numerical computing.



Julia in a Nutshell

Fast

Julia was designed from the beginning for high performance. Julia programs compile to efficient native code for multiple platforms via LLVM.

Dynamic

Julia is dynamically typed, feels like a scripting language, and has good support for interactive use.

Reproducible

Reproducible environments make it possible to recreate the same Julia environment every time, across platforms, with pre-built binaries.

Composable

Julia uses multiple dispatch as a paradigm, making it easy to express many object-oriented and functional programming patterns. The talk on the Unreasonable Effectiveness of Multiple Dispatch explains why it works so well.

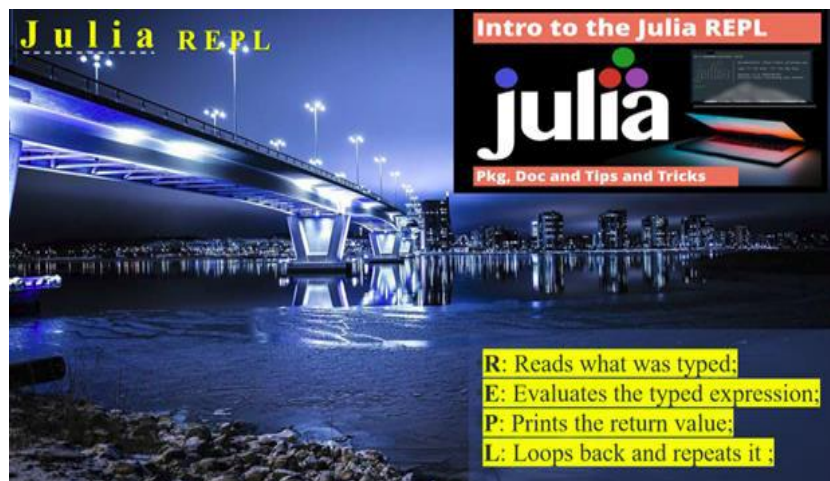
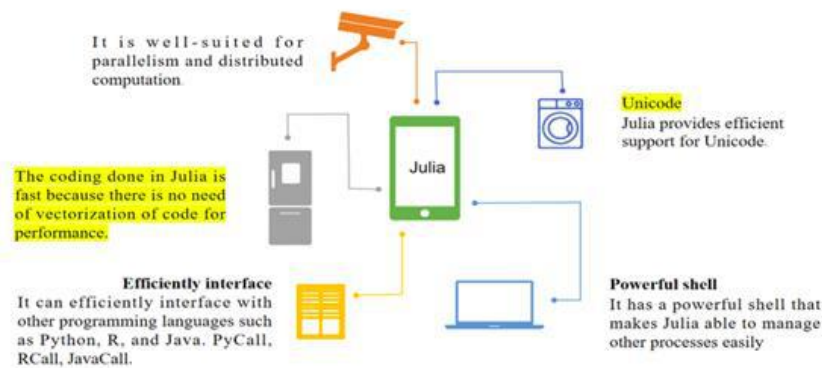
General

Julia provides asynchronous I/O, metaprogramming, debugging, logging, profiling, a package manager, and more. One can build entire Applications and Microservices in Julia.

Open source

Julia is an open source project with over 1,000 contributors. It is made available under the MIT license. The source code is available on GitHub.

Features of Julia



Outcome:

Based on the provided information by the resource person, the outcome of the guest lecture for the students appears positive. The key elements mentioned that,

- Julia is an emerging star in the programming world, recognised for its versatility and user-friendly syntax. It is growing in popularity across different sectors, from data science to machine learning.
- The Julia programming language redefines expectations with its execution speed, a paramount advantage in AI development. This rapid processing capability facilitates the efficient handling of complex algorithms, making Julia a front-runner among the trending languages in AI.

But one language has distinguished itself from the pack and slowly moved towards the light. That language is Julia. Despite its young age, Julia enthusiasts already call it the “future language of data Science and AI.