



Organized by

Department of Computer Science and
Engineering, MNIT Jaipur

5 day's Skill Development Workshop on "Fundamentals of C Programming Skills"

10-12,17,18 August, 2019

Sponsored By
TEQIP – III
Technical Education Quality Improvement Programme

Organizing Committee

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Objective

- To make you think deeper and harder in happenings of the hood of the fundamentals of a programming language.
- To develop strong foundation on extract program development through basics and advanced C language constructs.
- To develop understanding and expertise approach to computer programming skill.
- To emphasis on practical aspects of programming and focused to complex problem solving skills.
- To make strong foundation on modular C programming for various applications of data driven.

Registration:

For MNIT Students (UG/PG/PhD): **NIL (Free)**

For Outside Participants: Rs. 2000/-

Registration Deadline:

On or before 09 August, 2019

To register fill the Google form:

<https://forms.gle/5msQH6k4bnc83bPt5>

Resource Experts

Distinguished faculties from MNIT/NIT'S

Purpose of Workshop:

C language is known to be the mother of all languages; most programming languages are built around C. Thus, C language understanding makes you to think deeper and harder about happening's under the hood of the fundamentals of a programming language. However, python, java like languages makes you away from it as you start learning associated frameworks and libraries. Most of the Unix kernel, and all of its supporting tools and libraries, were written in C. Thus, C language is not limited to but used widely in network drivers, language interpreters and compilers, operating systems and system utilities areas of development.

The aim of this workshop is to raise the understanding and skills of basic and advanced C language programming strong. It will also emphasize on the extensive hands on programming practice of the program development. Further, the goal is to motivate the programming as a problem solving model framework to the participants and empower them the capability of the transition from concepts to practice of programming in their habits. Thus, focus is to strengthen the C language fundamental semantics and provide a disciplined personalized approach to programming skill.

Workshop Course Modules (20 Hr. Lecture, 20 Hr. Hands on Lab)

- Program and constructs: Fundamentals of program and programming, Data types, Variables, Operators and Expressions, Pointer
- Taking Decision : Branching selection constructs
- Making Repetitions: Lopping constructs
- Homogenous Data Set: Arrays (one dimensional to multidimensional), String
- Modular Programming: Functions and its flavors, parameter passing, recursion
- Collection of Heterogeneous Data Set: Structure, Self-referential structure, Union, Enumerated
- Permanent Data Storing: File management and Handling
- Dynamic and Advanced Programming : Pointers, Function pointers, Memory creation and usages
- Dynamic Data Structure: Linked Lists (Singly, Doubly, Circular), Stack, Queue
- Multi-Modular and Multi-File Programming concepts
- Command Line Arguments, Recursion, Program debugging, Programming Tips



Workshop Outcomes

- Makes your fundamentals very stronger and deeper of the C language.
- Serves as a bridge to fill-up the gap between programming and advanced discipline courses.
- Provides rudimentary initiations to concepts required for advanced courses (such as Data Structure, compiler design, OOP, System Programming, Software design and testing, Algorithm, Computer Graphics & Networks etc.).
- Enriched and up-skilled language fundamentals and coding will be useful to excel in placements/interviews/academics.

*** Completion certificates will be provided to all the participants.**

Workshop Contents: (All modules are covered with hands on coding practices)

Schedule	Expert Lectures 9:00AM – 1:00PM	Programming Lab Sessions 2:00PM – 6:00 PM
Day 1 Module 1 10 Aug 19	Problem Solving: Program and programming Program writing: Constructs of C program structure Data Types , Variables, operators and expressions Basic Pointers, Macros	Practice Session: Basic Programs and Tips Module 1
Day 2 Module 2 11 Aug 19	Taking Decision: Branching Constructs Making Repetitions: Looping Constructs Collection of Homogenous Data Set: Arrays (one dimensional to multi-dimensional), Character Arrays and Strings	Practice Session: Module 2
Day 3 Module 3 12 Aug 19	Modular Top-Down Programming: Functions and its flavours , passing parameters, recursive functions and their types Heterogeneous Data Set : Structure, self-referential structures, Union, Enumerated Permanent Data Storing: File Handling and Management Pre-processor Directives	Practice Session: Module 3
Day 4 Module 4 17 Aug 19	Dynamic and Advanced Programming: Pointers: function pointers, array of function pointers, Memory Creation and usages, Dynamic Data Structure: Linked Lists (Singly, Doubly, Circular), Stack, Queue, basics of Tree and Graph data structure	Practice Session: Module 4
Day 5 Module 3 18 Aug 19	Modular and Multi-File Programming with multiple functions, Command Line Arguments, Recursion, Program debugging, Programming Tips	Practice Session: Module 5