

## **Course Overview**

Your first steps in the fascinating & captivating world of C with Linux, which is as exciting as it is challenging. This program will hand hold you through your initial steps and help you build a solid foundation for your future...

### **Introduction**

- Why C
- C standards: C89/C99
- C compiler, Operating system
- Microprocessor
- Program/Software
- Compilation and linking process
- Header files

### **Linux Essential**

- C & Linux Relation
- Basic Linux commands
- Vi overview
- Linux installation-GCC overview
- Overview of Data types

### **Data types in C89/99.**

- Use of each data types.
- Modifiers,qualifiers, format specifiers for C89/C99 standards
- Rules for Identifiers and symbol tables
- Memory representation of each data types with different storage class
- Memory cycle for data types.
- Constant and variables in C

### **Overview of Operators**

- Rules: Precedence and associativity
- Dealing with all 45 operators and their application
- Operator notation

### **Overview of Control Structure**

- Jump Control structure
- Repetition Control structure
- Selection Control structure
- Decision Control structure
- Sequence Control structure

### **Pointer-Pointer and address**

- Pointer in 16 bits and 32 bits
- How pointer works
- Application of pointer

## **Array**

- Single dimensional array
- Double dimensional array
- Array implementation

## **Dynamic Memory Allocation**

- Implementation of heap
- Implementation malloc, calloc, realloc

## **Function-Why function**

- Function types-Function calling conventions
- Function recursion

## **Storage class**

- Properties and environment of storage class
- Scoping : block,function,file and program scoping

## **Preprocessor**

- CPP the C preprocessor
- Application of CPP
- Types of Directives: File inclusion, macro expansion, conditional compilation preprocessor and miscellaneous Directives

## **Structure and union**

- Use of structure and union
- Balance structure and slack bytes
- Byte offset and Bit field of structure
- Creating message format

## **File**

- Handling of low and high level files
- Standard libraries for File handling.

## **Programming I/O**

- I/O Devices
- Std.library functions for IO Devices
- Command line argument

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## **Facilities**

1. Weekly Discussion and Test
2. Lab Exercise Practice related to
3. Semester Questions
4. Last 5 years Question Answer
5. Discussion
6. 4. Final Test
7. 5. Study Material and DVD