

## **Techno Comp Academy**

An IT Training Institute

**Branch: New Sangvi, Pune.** 

### Contact: 9284293870

## **Course Content - C Programming**

### Introduction

Fundamentals of Computers
What is Programming
History of C Language
IDE
Installation of Sublime
Installation of VS Code
Installation of GCC
Writing First program using IDE

### **Basics of C Language**

**Tokens** 

white space

**Constants** 

Variables

**Keywords** 

Comments

Data Types

Variable Declarations

Output instruction in C

Input instruction in C

Operators in C

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### **Control Statements**

if if-else else-if ladder Nested if else conditional operator Switch case control Menu driven programs

### **Looping / Iterative Statement**

While loop For loop do-while loop break continue Nested loop **Pattern Printing Problems** Series Problems

#### **Functions**

**Function Introduction** 

Function call, Function Prototype, Function Definition Predefined/library Functions and user-defined functions Flow of program containing multiple functions Benefits of function

Ways to define a function

Takes nothing returns nothing Take Something returns nothing **Takes Nothing Return Something** 

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Take Something, Return Something
Recursion
Approach to recursive solution

### Array

Array Introduction
One dimensional Arrays
Multidimensional Arrays
Array Declaration Rules
Function call by Passing Arrays
Problem Solving Using an Array

### **Pointers**

Introduction to Pointer concept of memory address referencing and dereferencing operators size of pointer **Concept of Base Address** Data type of pointer extended concept of pointers pointer's arithmetic Call by reference Pointer and arrays pointer and strings array of pointers pointer to an array wild pointer **NULL** pointer Dangling pointer void pointer



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### **Memory Allocation**

SMA vs DMA malloc function calloc function Type casting Memory Leak free function realloc function

### String

Introduction to Strings
null character
string functions
function call by passing string
Handling multiple strings
Implementing own functions from string.h

### Structure and Union

Need of structure
Primitive and non-primitive data type
Defining structure
Local definition vs global definition of structure
Declaring structure variable
Declaring Structure pointer
Structure variable initialization during declaration



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Structure variable initialization after declaration Taking input from user to initialize members Structure array Function returning structure Function call by passing structure

### **Storage Classes**

auto register static extern

### **Pre-Processor Directives**

#define directive
Define Symbolic constant
Parameterized #define macro
#include directive
Writing own header file mystring.h

### **Bitwise Operator**

Operator	<b>Operator Name</b>
>>	Right shift
<<	Left Shift
٨	Bitwise XOR
~	One's complement
&	Bitwise AND
	Bitwise OR

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### File Handling

Introduction
Common file functions
Basic file operation functions
File open modes
Binary Modes
File Input and Output operations
Reading writing Text Files
Reading and writing image, video files.

### **Course Completion Certificate**

At the end of course you will get Techno Comp Academy's Course Completion Certificate.

### **Duration**

3 Months

Mr. Sachin Dhane Techno Comp Academy, Pune.