

Back End Developer :- C, C++

C

<u>C Introduction</u>	Types of Languages Evolution of 'C' Language Structure of a 'C' Program 'C' Program development life cycle Executing and Debugging a 'C' Program
<u>'C' Tokens</u>	Keywords and Identifiers Operators Constants Variables Data Types Precedence of Operators Scope and Lifetime of Variables
<u>Control Statement and Expressions</u>	Decision Making using if statement Types of if ...else block Switch case Block Arithmetic Expressions Evaluation of Expressions GOTO statement
<u>Looping</u>	Concept of Loop For loop While loop Do while loop Jumping in Loop break and continue statement
<u>Arrays and String</u>	Introduction of Array One - D Array Two - D Array Multidimensional Array Dynamic Arrays Implementing String Variables String handling Functions
<u>Functions</u>	Concept of Function User defined Function System Defined Function Types of parameter passing in function
<u>Pointers</u>	Need of Pointers

	Types of Pointers Pointer Expression Arrays of Pointers Pointers and Functions
<u>Structure and Unions</u>	Need of Structure Implementing Structure Variable Arrays of Structure Structure within Structure Introduction of Unions Difference between Structure and Unions
<u>File Handling using 'C'</u>	Opening and Closing File Input / Output operations on File Random Access to Files Command Line Arguments
<u>Dynamic Memory Allocation</u>	Concept of Dynamic Allocation Implementing Malloc and Calloc Functions Releasing the free space
<u>Storage Classes and Pre-processor</u>	Introduction of Storage Class Types of Storage Classes Introduction of Pre-processor Macro Substitution File Inclusion

C++

<u>C++ Introduction</u>	What is C++? Why Use C++ Difference between C and C++ C++ Syntax
<u>Introduction to Object Oriented Programming</u>	Concept of OOP Features of OOP Structure of 'C++' program Executing and Debugging a 'C++' Program
<u>'C++' Tokens and Type Casting</u>	Keywords and Identifiers Operators Constants Variables Data Types Precedence of Operators Scope and Lifetime of Variables
<u>Classes & Objects</u>	Classes & Object Specifier Defining data members and member functions Array of objects Managing console I/O 'C++' stream classes Formatted and unformatted console I/O Usage of manipulators
<u>Function in 'C++'</u>	Call by reference, Return by reference Function overloading and default arguments Inline function Static class members Friend functions Virtual Functions
<u>Constructors and Destructor</u>	Concept of Constructor Types of Constructors Memory allocation (new and delete) Usage of destructor
<u>Operator Overloading</u>	Overloading Unary and Binary operators Overloading using friend function
<u>Inheritance</u>	Types of inheritance Virtual base classes and abstract base classes Constructor and destructor in derived class

<u>Working with files</u>	File operations File pointer and their manipulation File updation with random access
<u>Exception Handling</u>	Various Exception Handling classes Implementing try and catch block Use of throw keyword

