

C, C++ Syllabus

C Syllabus

C Language Syllabus

- Execution of C Program
- History
- Structure of C Program

Variables and Keywords

- Character Set
- Identifier
- Variable
- Keywords
- Escape Sequence Characters

Constants

- Real Constant
- Integer Constant
- Character Constant
- String Constant

Data Types

- Data Types
- Qualifier
- Enum

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- Typedef

Operators

- Assignment Operator
- Arithmetic Operators
- Logical Operators
- Relational Operators
- Shorthand Operators
- Unary Operators
- Conditional / Ternary Operator
- Biwise Operators
- Operator Precedence and Associativity
- If Statement
- If-Else Statement
- Nested If-Else
- Switch Case

Looping Statements

- Looping / Iterative Statements
- while
- do while
- for loop
- Break Statement

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- Continue Statement
- Goto

Functions

- Function call by passing value
- Function call by returning value
- Function call by passing and returning value
- Recursion

Storage Classes

- Storage Classes
- Automatic Storage Class (auto)
- Register Storage Class (register)
- Static Storage Class (static)
- External Storage Class (extern)

Array

- Array
- Single / One Dimensional Array
- Two Dimensional Array

Structure

- Structure
- Array in Structures
- Structure with Array

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- Difference between array and structure

Pointers

Union

- Union
- Difference between structure and union
- Strings
- File Handling

Header Files

- Header File
- Assert.h
- Ctype.h
- Math.h
- Process.h
- String.h
- Time.h

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C++ Syllabus

Object oriented programming concepts

- Classes
- Reusability
- Encapsulation
- Inheritance
- Polymorphism
- Dynamic binding
- Message passing

Classes and Objects

- Creation,
- accessing class members
- Private Vs Public
- Constructor and Destructor
- Objects

Member Functions

- Method definition
- Inline Implementation

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Overloading Member Functions

- Need of operator overloading,
- prefix and postfix,
- overloading binary operators,
- operator overloading,
- Instream/Outstream
- operator overloading

Inheritance

- Definition of inheritance
- protected data, private data, public data
- inheriting constructors and destructors
- constructor for virtual base classes
- constructors and destructors of derived classes,
- virtual functions
- types of inheritance
- single inheritance
- hierarchical inheritance
- multiple inheritance
- hybrid inheritance

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Polymorphism and Virtual Functions

- Importance of virtual function
- function call binding
- virtual functions
- need for virtual functions
- abstract base classes and pure virtual functions

File and Streams

- Components of a file
- different operation of the file
- communication in files
- creation of file streams
- stream classes
- header files
- updating of file
- opening and closing a file
- file pointers and their manipulations
- functions manipulation of file pointers
- Detecting end-of file.