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C++ Syllabus

Fundamentals

- Difference between C & C++
- C Input/Output vs. C++ Input/Output
- Pointers, references and Array
- Preprocessor directives

Function

- Swallow copying and Deep Copying
- Function Recursion
- Function Overloading and name mangling
- Default arguments
- Pointers to functions.
- Creating library

OOPS

- Essence of OOPS
- Examples on OOPS?

Working with string

- Working with string functions.
- The string type in C++

Dynamic Memory Allocation

- Different types of allocation.
- Memory leak and memory link.

Union, Structure

- What and why structure and union?
- Uses of Structures and Unions
- Self referential structure.
- Working with Data Structures. Stack, queue and linked list.

Class and Objects

- What is class?
- Working with static and const keywords in class.
- Friend function and friend class
- Constructor Overloading
- Visiting data structures through classes.
- Copy constructor.
- Working with explicit.
- Self reference.
- Singleton class.

Operator Overloading

- Syntax and semantics of operator overloading
- Operator as a Conversion functions.

Relationship

- Inheritance & containership

Polymorphism

- Object slicing (up casting and down casting)
- Virtual functions & Pure virtual functions

- Vtable and Vptr.
- Changing Vtable.
- Abstract class.

Object Oriented Analysis and Design(OOAD)

- What is analysis and design
- Software lifecycle
- UML diagrams
- Relationships

File handling

- File handling in C & C++
- Uses and applications of files.

Exception Handling

- Mechanism of exception handling.
- Exception in constructor & destructor.
- Exception and inheritance.
- Exception handling in files.

Template

- What is Template
- Types of template and their uses.

RTTI

- What is RTTI & implementation

Namespace

- Creating namespaces
- Using namespaces

STL

- Working with STL
- Different components

Working with MFC

- What is MFC
- Architecture of MFC.
- Manipulating and creating images, windows and application oriented programming.
- Creating dialog applications

Threads in C++

- Creating thread
- Advantages of Creating threads

Socket Programming

- Creating sockets
- Networking programming

Coding Standardization

- What is coding standardization and types.
- Uses of coding standardization.
- UML in coding standardization.