C++ Programming

TCA

TRAINING & DEVELOPMENT

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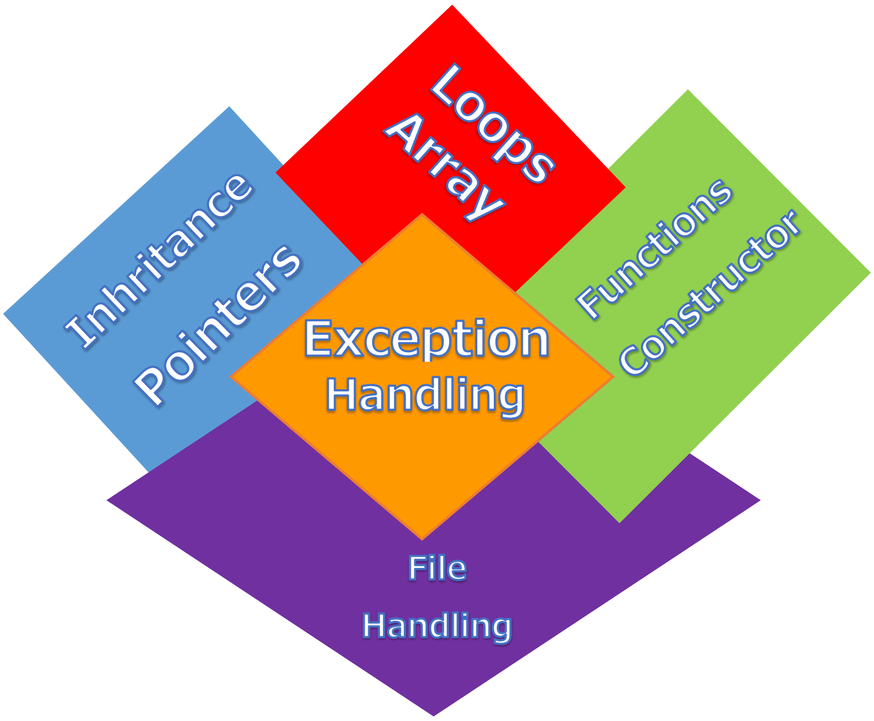
C++ Programming



Loops
Array
Inhritance
Pointers
Functions
Constructor
Exception
Handling
File
Handling

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DURATION: 45 Days

C++ PROGRAMMING

BASICS OF PROGRAMMING

- ✓ The history of programming
- ✓ Introduction to C++
- ✓ Compiler, Interpreter
- ✓ OOPS Concepts
- ✓ Object, Class, Advantages of OOPs
- ✓ Features of OOPS- Abstraction
- ✓ Encapsulation
- ✓ Polymorphism, Inheritance

C++ DATA TYPES

- ✓ Data Types, Logical
- ✓ Boolean, Textual – char
- ✓ Textual – string
- ✓ Integral – byte, short, int, and long
- ✓ Floating point – float and double
- ✓ Floating point – float and double

C++ OPERATORS

- ✓ Operators introduction
- ✓ Arithmetic operator
- ✓ Relational operator
- ✓ Logical operator
- ✓ Bitwise operator
- ✓ Assignment & Misc.Operator

ACCESS MODIFIERS

- ✓ Public Access Modifier - Public
- ✓ Private Access Modifier – Private
- ✓ Protected Access Modifier – Protected

CONTROL FLOW STATEMENT

- ✓ Conditional Statement- if, if..else
- ✓ Ladder of else..if, switch..case, nested if
- ✓ While, do..while and for loop
- ✓ Nested loop

ARRAYS

- ✓ Introduction to Array in C++
- ✓ Variable to refer to an array
- ✓ Introduction to 2-D Array
- ✓ Declaring & Initializing 2-D Array
- ✓ Declare enum, initializing enum

C++ PROGRAMMING

FUNCTIONS IN C++

- ✓ Declaring functions, calling functions
- ✓ Static functions, Non-static functions
- ✓ Functions with parameter
- ✓ Static functions with parameter
- ✓ Non-static functions with parameter

CONSTRUCTOR

- ✓ Introduction of constructor
- ✓ Default Constructor, Usage of constructor
- ✓ Constructor with parameter
- ✓ Usage of Garbage Collector
- ✓ Concept of having destructor

POLYMORPHISM, STATIC VS DYNAMIC BINDING

- ✓ Polymorphism, Instance variable hiding,
- ✓ Hiding fields, Use of final
- ✓ Role of super, learning about static
- ✓ Static keyword

FUNCTIONS OVERLOADING

- ✓ Introduction Function Overloading
- ✓ Various ways of overloading a function
- ✓ Type & Sequence of Parameter

CONSTRUCTOR OVERLOADING

- ✓ Introduction to constructor overloading
- ✓ By changing no. Parameter
- ✓ By Changing Sequence of parameter
- ✓ By changing types of parameter

INHERITANCE

- ✓ Single – level, Multi –level, Multiple
- ✓ Reusability feature of C++
- ✓ Performing inheritance, Final keyword
- ✓ Multiple inheritance using interface

INTERFACE

- ✓ Introduction to the usage of interface
- ✓ Interface Declaration
- ✓ Methods under interface
- ✓ Usage of interface for multiple-inheritance

ABSTRACT CLASSES AND INTERFACES

- ✓ Abstract methods and classes
- ✓ Abstract classes versus interfaces
- ✓ An abstract class example
- ✓ Dynamic Polymorphism

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C++ PROGRAMMING

POINTER IN C++

- ✓ Arithmetic pointers
- ✓ Null Pointers
- ✓ Arithmetic Pointer
- ✓ Pointers vs Arrays
- ✓ Array of Pointers
- ✓ Passing Pointers to Functions
- ✓ Return Pointer from Functions

USING POINTER ON POINTERS

- ✓ Passing Pointer to pointer
- ✓ Return Pointer from pointer

REFERENCES VS POINTERS

- ✓ Creating reference
- ✓ Differentiating reference from pointers

READING & WRITING TO FILES

- ✓ Read characters
- ✓ Write characters
- ✓ Reading value other than characters

EXCEPTION HANDLING

- ✓ Fundamental of exception handling
- ✓ Checked exception
- ✓ Unchecked exception
- ✓ Handling exception

USING TRY…CATCH STATEMENT

- ✓ Exception handling technique
- ✓ Try
- ✓ Catch
- ✓ Finally

C++ PROGRAMMING

USER-DEFINED EXCEPTION

- ✓ Introduction to user-defined Exception
- ✓ User defined exception handling
- ✓ Learning to create user-defined exception
- ✓ Using throw and throws
- ✓ Designing custom exception
- ✓ Handling a user-defined exception

DYMANIC MEMORY ALLOCATION

- ✓ The Stack & Heap
- ✓ New and delete operators, Malloc()
- ✓ Dynamic memory allocation
- ✓ For arrays and objects

PREPROCESSORS

- ✓ #define preprocessors
- ✓ Function like macros
- ✓ Conditional Compilation
- ✓ Predefined C++ Macros

NAMESPACE, TEMPLATES & MULTI-THREADING

- ✓ Defining a namespace
- ✓ Using directives
- ✓ Nested namespace
- ✓ Introduction to multithreading
- ✓ Introduction to multitasking
- ✓ The C++ thread modal