**PROGRAMMER’S DEN**

“Practical Knowledge > Theoretical Knowledge”

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C, C++, Java Programming

**Module 1: C Programming**

* History of C Programming Language.
* Features / Characteristics of C Programming Language.
* Tool Chain of C Programming Language.
* Data Types, Variables and Constants in C.
* Operators and Expressions in C.
* Statements in C (Loops, if else if ladder, switch statements).
* Arrays and Pointers in C.
* Functions in C.
* I/O Operations in C.
* Strings and Character Array in C.
* Scope, Linkage, Lifetime and Storage Classes in C.
* Structures, Unions and Enumerations and Bit-fields.
* Dynamic Memory Allocations in C.
* File Handling in C.
* Data Structures in C.

**Module 2: C++ Programming**

* History of C++ Programming Language.
* Features / Characteristics of C++ Programming Language.
* Tool Chain of C++ Programming Language.
* Data Types, Variables and Constants in C++.
* Operators and Expressions in C++.
* Statements in C++ (Loops, if else if ladder, switch statements).
* Arrays and Pointers in C++.
* Functions in C++.
* I/O Operations in C++.
* Strings and Character Array in C++.
* Scope, Linkage, Lifetime and Storage Classes in C++.
* Structures, Unions and Enumerations and Bit-fields.
* Dynamic Memory Allocations in C++.
* Object Oriented Thinking in C++.
* Object Oriented Programming in C++.
* OOPS Concepts (Encapsulation, Polymorphism, Abstraction, Inheritance) in C++.
* This pointer in C++.
* Types of Inheritance in C++.
* Access Specifiers in C++.
* Inline Functions in C++.
* Static in C++.
* Friend Concept in C++.
* Types of Polymorphisms in C++.
* Function Overloading in C++.
* Function Overriding in C++.
* Operator Overloading in C++.
* Virtual, Pure Virtual Functions in C++.
* Constructors and Destructors in C++.
* Virtual Destructors in C++.
* Pure Virtual Destructors in C++.
* Generic Programming in C++.
* Data Structures in C++.
* File Handling in C++.

**Module 3: Java Programming (Core, Advanced)**

* History of Java Programming.
* Characteristics of Java Programming.
* Tool Chain of Java.
* Data Types in Java.
* I/O in Java
* Command Line Arguments in Java.
* Arrays in Java.
* Memory Allocation, Deallocation in Java.
* Memory Management in Virtual Machine
* Object Class in Java.
* This Keyword in Java.
* Super Keyword in Java.
* Final Keyword in Java.
* Static in Java.
* String in Java.
* Object Oriented Programming in Java.
* OOPS Concepts (Encapsulation, Polymorphism, Abstraction, Inheritance) in Java.
* Interfaces in Java.
* Class in Java.
* Constructors and Destructors in Java.
* Types of Polymorphism in Java.
* Function Overloading in Java.
* Method (Function) Overriding in Java.
* Packages in Java.
* Abstract Class in Java.
* Wrapper Class in Java.
* Generic Programming in Java.
* Exception Handling in Java.
* Multithreading in Java.
* Data Structures in Java.
* File I/O in Java.
* Java as SDK
* AWT vs Swing
* Server-Side Programming in java
* Server-Side Programming using Servlet in java
* Java Database Connectivity (JDBC)
* Collection Framework in Java

**Note:**

* During Lectures You Have to Do Parallel Coding with Teacher for Better Understanding of All Above Concepts.