



C, C++ LANGUAGE

Professional Course

ABSTRACT

Welcome to Software Industries, where all Enters as Fresher's and Exit as Professional. Well this complete course are designed in according to see existing market and its professionalism. It will helps you to drop your career towards embedded system or application level working.

Mahendrakumar, Hinsu Maulik
C, C++ Language

Name : Maulik Hinsu

Mode of Session :

Online Session (Skype, Hangout)

Offline Session (Institute, Home)

The complete course is designed in according to meet requirements of highly professional .

Basic and Advance C Language		
SrNo	Chepter	Contents
1	Chapter – 1	Introductions of Linux <ul style="list-style-type: none"> • What is linux • Installation on Linux • Basics of Linux and Commands
2	Chapter – 2	Basic Knowledge of Complier and Different Stages <ul style="list-style-type: none"> • Datatypes on different Compiler • Size varies according to Compiler and Environments
3	Chapter – 3	Operators and Expressions <ul style="list-style-type: none"> • What is Operators and its Usages • Arithmetic • Assignments • Increment and Decrement • Relational • Logical and Conditional • Comma and Sizeof • Bitwise and others
4	Chapter – 4	Control Statements <ul style="list-style-type: none"> • What is Control statements and how we can use it • If ... else • Nesting of if ... else • Else .. if Ledder • While loop • Nesting loops • For loops • Infinite loops • Do .. while loops • Go to • Switch • Break • Continue

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5	Chapter – 5	Functions <ul style="list-style-type: none"> • What is functions and its usages • Advantage of Functions • Library Functions • Userdefined Functions • Function Defination • Functions Call • Return Statement
		<ul style="list-style-type: none"> • Function Arguments(Actual, Formal) • Fun with No Arguments & no Return value • Fun with No Arguments & Return value • Fun with Arguments & no Return value • Fun with Arguments & Return value
	Types of Functions	<ul style="list-style-type: none"> • Function Arguments(Actual, Formal) • Fun with No Arguments & no Return value • Fun with No Arguments & Return value • Fun with Arguments & no Return value • Fun with Arguments & Return value
6	Chapter – 6	Storage Classes & memory during Program Execution <ul style="list-style-type: none"> • Auto • Static • Register • External
	Memory model of Programm	<ul style="list-style-type: none"> • code • data • heap • stack
7	Chapter – 7	Arrays & Pointers <ul style="list-style-type: none"> • 1 – D Array • 2 – D Array • 3 – D Array • Passing 1 – D Array to Functions. • Passing 2 – D array to Functions • Pointer Variable • Pointer to Pointer • Pointer & 1 – D Array • Subscripting Pointer Variables • Pointer to an Array • Pointer & 2 – D Array • Pointer & Functions • Function returning Pointer • Array of Pointers • Void Pointer

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		<ul style="list-style-type: none"> • Constant Pointers • Dynamic Memory allocation of 1 – D, 2 – D and 3 – D array • Pointer to Functions
8	Chapter – 8	Strings <ul style="list-style-type: none"> • String Constant • String Variables • String Library Functions • Library Functions of Strings. E.g – strlen, strcmp, strcpy, strcat • Array of strings or 2 – D Array string Pointer
9	Chapter - 9	Structure & Union <ul style="list-style-type: none"> • Defining of Structure • Declaring Structure Variable • Structure Defination • Using Structure Tag • Intialize of Structure Variables • Accessing m/m of a structure • Assignment of structure variables • Storage of structure in m/m • Sizeof structure • Array of structure • Nested structure • Pointer to structure • Pointer within structure • Structure & function • Passing structure member as arguments • Passing structure variable as argument • Passing pointer to structure as argument • Returning a structure variable from function • Self referential structure • Union and bitfield • Typedef and Enum
10	Chapter – 10	Files <ul style="list-style-type: none"> • Files and Streams • File handling library functions • fopen and fclose • fread and fwrite • fprintf and fscanf • fseek and ftell • fput and fget • rewind • Command lien arguments

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11	Chapter – 11	C Preprocessor <ul style="list-style-type: none"> • What is c preprocessor • Including File • #define & #undef directive • Conditional compilation • #ifdef and #endif • #ifndef • #if and #elif and #else
12	Chapter – 12	Introduction of Datastructure
	Linked List	<ul style="list-style-type: none"> • Single Linked list • Double Linked list • Circular Linked list • Queue • Stack
	Tree	<ul style="list-style-type: none"> • Binary tree • Binary Search Tree • AVL
	Sorting Algorithms	<ul style="list-style-type: none"> • Bubble • Selection • Insertion • heap • merge • quick
13	Chapter – 13	<ul style="list-style-type: none"> • Searching Algorithms • Liner Search • Binary Search • Hashing technique • Graph representation

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Basic and Advance C++		
1	Chapter – 1	Introduction of C++ <ul style="list-style-type: none"> • What is C++ Language • Why we need C++ Language even we have C • Advantage of C++ over C • How C and C++ Different to eachother • Properties of C++ Language • Importance of C++ • How and Where we can use C++
2	Chapter – 2	Programming Language <ul style="list-style-type: none"> • Procedure Oriented Programming Language <ul style="list-style-type: none"> ➤ Advantage of Procedure Oriented Lang. ➤ Disadvantages of Procedure Oriented Lang. • Structured Programming Language • Object Oriented Programming Language
3	Chapter – 3	What is C++ <ul style="list-style-type: none"> • Improvements over C Language • Advance Features • Features of C++ <ul style="list-style-type: none"> ➤ Data Encapsulation ➤ Data Abstraction ➤ Polymorphism ➤ Inheritance
4	Chapter – 4	Extra Features over C <ul style="list-style-type: none"> • What is Namespace • How to use Namespace • Features of Namespace • What is Scope Resolution Operator • How to use Scope resolution Operator • Features of Scope resolution Operator • What is Reference Variable • How to use reference variable • Difference between reference variable and Pointer • What is bool datatypes • How to use bool • What is string datatype • How to use string datatype

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5	Chapter - 5	<p>Class and Structure of C++</p> <ul style="list-style-type: none"> • What is Class in C++ • What is Structure in C++ • Declaring, Defining of Class and Structure • Comparison of Class and C Structure • Comparison of C structure and C++ Structure • Comparison of C Structure and C++ Structure • Features of Class • How to Write Class • Creation of Objects • Data Encapsulations Example • Passing object and Class as an arguments • Malloc Vs New Operator • Comparison of Malloc and New
6	Chapter – 6	<p>Friend Keyword in C++</p> <ul style="list-style-type: none"> • What is Friend Keyword in C++ • How to use Friend Keyword and which place • Friend Function • Friend Classes • Class Member Functions and Class as Friends • Friend Declaration • What is member function and friend function • Comparison of friend and member function • Constant member function • Constant object
7	Chapter – 7	<p>Constructors and Destructors</p> <ul style="list-style-type: none"> • What is Constructors • What is destructors • Types of Constructors <ul style="list-style-type: none"> ➤ Default Constructors ➤ Parameterised Constructors ➤ Copy Constructors ➤ Dynamic Constructors • What is Shallow and Deep Copy • How to use Constructors • Rules of Declaring Constructors • Explicitly called Constructors • Private constructors • How to use destructors • Why we have to use constructor and destructor

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8	Chapter – 8	<p>Static Keyword in C++</p> <ul style="list-style-type: none"> • What is Static keyword in C++ • Why and where we can use Static Keyword • What is static data member • What is static member function • Features of static data member and member function • Why we need static in C++
9	Chapter – 9	<p>Overloading Concept on C++</p> <ul style="list-style-type: none"> • What is overloading • What is function overloading • What is operator overloading • Why we need overloading concept in C++ • Features of overloading • Operator overloading using member functions • Operator overloading using friend function • List of the operator that can not overload • List of operator that can overload only by friend function • List of operator that can overload only by member function • Data Conversions <ul style="list-style-type: none"> ➤ Basic – basic ➤ Basic to User defined ➤ User defined to bAsic ➤ User defined to user defined
10	Chapter - 10	<p>Inheritance</p> <ul style="list-style-type: none"> • What is Inheritance • Why we need Inheritance • How to use Inheritance • Types of Inheritance <ul style="list-style-type: none"> ➤ Single, Hybrid ➤ Multilevel, Hierarchical ➤ Multiple, Multipath • Features of Inheritance
11	Chapter – 11	<p>Polymorphism</p> <ul style="list-style-type: none"> • What is polymorphism • Why we need to use polymorphism • How to use polymorphism • Types of polymorphism <ul style="list-style-type: none"> ➤ Run time Polymorphism ➤ Compile time Polymorphism • Virtual keyword concept in C++

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		<ul style="list-style-type: none"> • Why we need to use virtual keyword in C++ • Virtual Table • Virtual pointer • Function overriding • Pure virtual function • How to use Virtual Keyword and its features • Pointer to base class • Abstract base class
12	Chapter - 12	Templates, Exception Handling <ul style="list-style-type: none"> • Function Template • Class Template • Exception Behaviours • Predicting Exceptions • Catching Multiple Exceptions
13	Chapter - 13	File Handling using C++ <ul style="list-style-type: none"> • How to access file and Implement logics in file • Library functions in C++ • Standard Streams in C++ • Ostream Class • Opening a file • Closing a file • Writing to a file • Reading from a file • Read & write • File position pointers • Get and put stream pointers <ul style="list-style-type: none"> ➤ tellg and tellp ➤ seekg and seekp

Why you Prefer us for your professional career and how we will make you different in existing market of IT.

- (1) For C language full course is taken by professional lecturer.
- (2) For each topics are explain by theory as well as practical example.
- (3) Lecturer will share its real-time examples and experience of his professional life.
- (4) For interview preparation, assignments will be given which is most important to crack interviews.
- (5) Any particular and decent questions will be share with students which is most commonly asked in most interviews.

Course Details : Basics and Advance C language Course	->	1.5 Months
Basics and Advance C++ Language Course	->	1.5 Months
Basics of Linux and System Programming	->	Will Start Soon
Networking and Socket Programming	->	Will Start Soon