

C++ Tutorial



C++ tutorial provides basic and advanced concepts of C++. Our C++ tutorial is designed for beginners and professionals.

C++ is an object-oriented programming language. It is an extension to **C programming**.

Our C++ tutorial includes all topics of C++ such as first example, control statements, objects and classes, **inheritance**, **constructor**, destructor, this, static, polymorphism, abstraction, abstract class, interface, namespace, encapsulation, arrays, strings, exception handling, File IO, etc.

What is C++

C++ is a general purpose, case-sensitive, free-form programming language that supports object-oriented, procedural and generic programming.



C++ is a middle-level language, as it encapsulates both high and low level language features.

Object-Oriented Programming (OOPs)

C++ supports the object-oriented programming, the four major pillar of object-oriented programming (OOPs

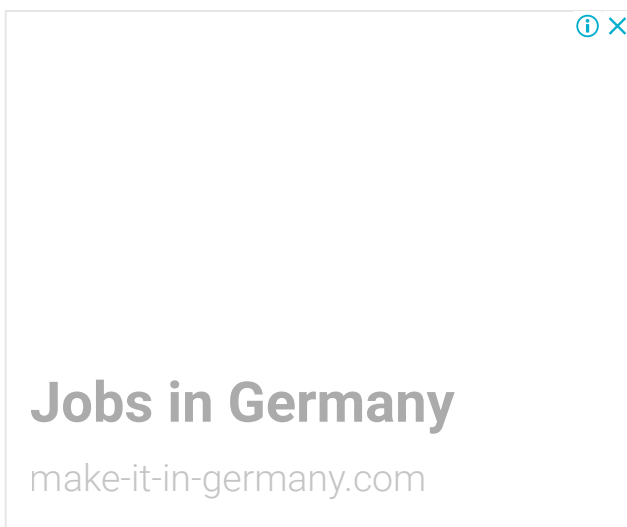
) used in C++ are:

1. Inheritance
2. Polymorphism
3. Encapsulation
4. Abstraction

C++ Standard Libraries

Standard C++ programming is divided into three important parts:

- The core library includes the data types, variables and literals, etc.
- The standard library includes the set of functions manipulating strings, files, etc.
- The Standard Template Library (STL) includes the set of methods manipulating a data structure.



Usage of C++

By the help of C++ programming language, we can develop different types of secured and robust applications:

- Window application
- Client-Server application

- Device drivers
- Embedded firmware etc

C++ Program

In this tutorial, all C++ programs are given with C++ compiler so that you can easily change the C++ program code.

File: main.cpp

```
#include <iostream>
using namespace std;
int main() {
    cout << "Hello C++ Programming";
    return 0;
}
```

A detailed explanation of first C++ program is given in next chapters.

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C++ Control Statement

C++ STL Deque

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- Deque emplace_back() function
- Deque emplace_front() function
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C++ STL Multiset

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