

# PROGRAMMING LANGUAGE C++

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*Abstract-* We are entering into an era where day by day, more and more, human kind is getting influenced by technical inventions. Today's technology is shaping our world in a better way by improvising the way of doing a work. Nowadays, children are more comfortable and familiar with today's technology than most of their elders. Children today need free access to technology so that they can achieve clarity in the field of information rather than achieving quantity. Therefore, one reasonable goal of education includes developing a basic knowledge about the methods, structures and principle operations behind the most common tools. That is why, this paper includes the specifications of C++ programming as the use of C++ has changed dramatically over the years and so has the language itself. If we look from the view of a programmer, all these changes are improvements. The current ISO standard C++ (ISO/IEC 14882 2011, usually called C++11) is simply a far better tool for writing quality software than were previous versions. C++ is a general-purpose programming language emphasizing the design and use of type-rich, lightweight abstractions. It is particularly suited for resource-constrained applications, such as those found in software infrastructures.

## I. INTRODUCTION

The main idea for C++ programming – as for programming in most higher-level languages – is to express concepts (ideas, notions, etc.) from a design directly in code.

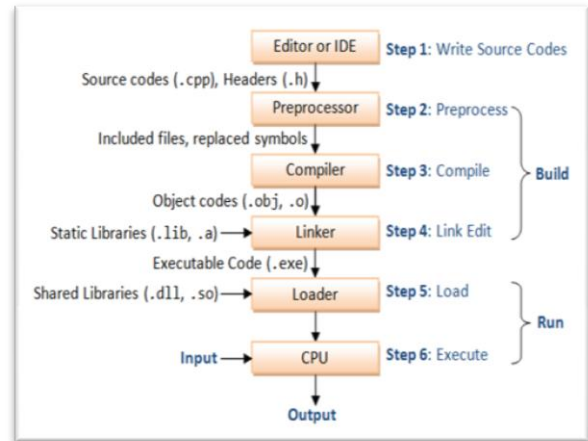
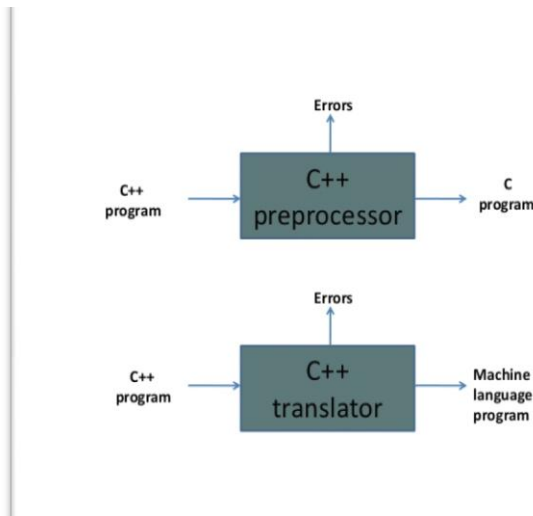
C++ is a general purpose programming language designed to make programming more enjoyable for the programmers. Except for few details, C++ is a superset of the C programming language. In addition to the facilities provided by C, C++ provides flexible and efficient facilities for defining new types and methods. A programmer can distinguish an application into manageable pieces by defining new types that closely match the concepts of the application. This technique for program construction is often called data abstraction.

Objects of some user-defined types contain type information.

Such objects can be used conveniently and safely in contexts in which their type cannot be determined at compile time. Programs using objects of such types are often called object based. When used well, these techniques result in shorter, easier to understand, and easier to maintain programs. The key concept in C++ is Class. A class is a user-defined type. Classes provide data hiding, guaranteed initialization of data, implicit type conversion for user-defined types, dynamic typing, user-controlled memory management, and mechanisms for overloading operators. C++ provides much better facilities for type checking and for expressing modularity than C does. It also contains improvements that are not directly related to classes, including symbolic constants, inline substitution of functions, default function arguments, overloaded function names, free store management operators, and a reference type. C++ retains C's ability to deal efficiently with the fundamental objects of the hardware (bits, bytes, words, addresses, etc.). This allows the user-defined types to be implemented with a pleasing degree of efficiency.

C++ and its standard libraries are designed for portability. The current implementation will run on most systems that support C. C libraries can be used from a C++ program, and most tools that support programming in C can be used with C++.

**DIAGRAM**



**II. DISADVANTAGES AND ADVANTAGES**

**Advantages of C++ are:**

- C++ use multi-paradigm programming. Paradigm means style of programming .paradigm concerned about logics , structure and procedure of program. C++ is multi-paradigm means it follow three paradigm Generic, Imperative, Object Oriented.
- It is useful for low level programming language and very efficient for general purpose.
- C++ provide performance and memory efficiently.
- It provide high level abstraction. in the language of the problem domain.
- C++ is compatible with C.
- C++ used reusability of code.
- C++ used inheritance, polymorphism

**DISADVANTAGES OF C++ are:**

- Complex in very large high level program.
- Used for platform specific application commonly.
- For a particular operating system or platform the library set is usually chosen that locks.
- when C++ used for web applications complex and difficult to debug.
- C++ can't support garbage collection.

- C++ not support Dynamic Memory Allocation.
- C++ is not secure because it have pointer, friend function and global variable.
- No support for threads built in.

**III. CONCLUSION**

C++ feels like a new language but it helps in expressing ideas more clearly and simply with the execution of codes. Other languages like JAVA has borrowed some features from C++. Therefore, C++ gives an opportunity to get familiar to other languages too.

**REFERENCES**

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