

# C++- Overview

## Introduction

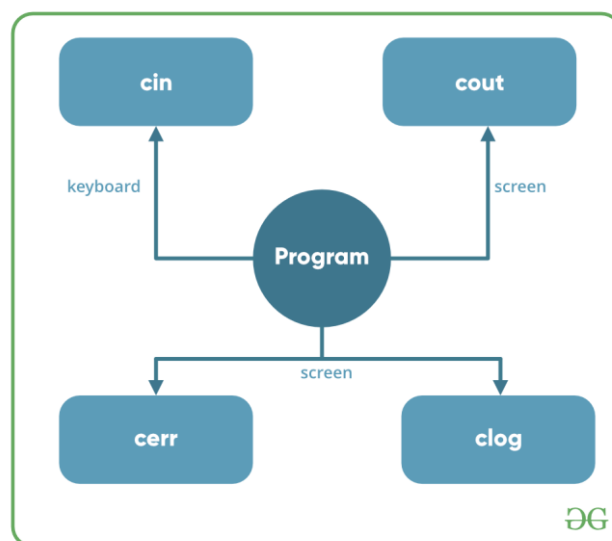
- C++ is a statically typed, compiled, general-purpose, case-sensitive, free-form programming language that supports procedural, object-oriented, and generic programming.
- C++ is regarded as a middle-level language, as it comprises a combination of both high-level and low-level language features.
- C++ was developed by Bjarne Stroustrup starting in 1979 at Bell Labs in Murray Hill, New Jersey, as an enhancement to the C language and originally named C with Classes but later it was renamed C++ in 1983.
- C++ is a superset of C, and that virtually any legal C program is a legal C++ program.

```
// my first program in C++
#include <iostream>
int main()
{
    std::cout << "Hello World!";
    return 0;
}
```

## Streams

C++ comes with libraries that provide us with many ways for performing input and output. In C++ input and output are performed in the form of a sequence of bytes or more commonly known as streams.

- **Input Stream:** If the direction of flow of bytes is from the device (for example, Keyboard) to the main memory then this process is called input.
- **Output Stream:** If the direction of flow of bytes is opposite, i.e. from main memory to device (display screen) then this process is called output.



The two keywords *cout* in C++ and *cin* in C++ are used very often for printing outputs and taking inputs respectively.

- Standard output stream (*cout*): Usually the standard output device is the display screen. The C++ *cout* statement is the instance of the *ostream* class.

```
#include <iostream>
using namespace std;
int main()
{
    char sample[] = "GeeksforGeeks";
    cout << sample << " - A computer science portal for geeks";
    return 0;
}
```

- Standard input stream (*cin*): Usually the input device in a computer is the keyboard. C++ *cin* statement is the instance of the class *istream* and is used to read input from the standard input device which is usually a keyboard.

```
#include <iostream>
using namespace std;
int main()
{
    int age;
    cout << "Enter your age:";
    cin >> age;
    cout << "\nYour age is: " << age;
    return 0;
}
```