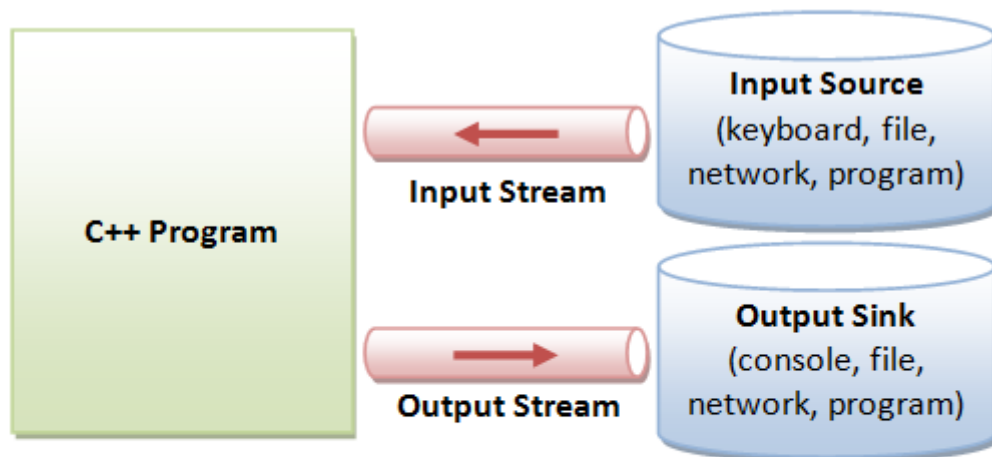




Character I/O – Object I/O

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.



Internal Data Formats:

- Text: char, wchar_t
- int, float, double, etc.

External Data Formats:

- Text in various encodings (US-ASCII, ISO-8859-1, UCS-2, UTF-8, UTF-16, UTF-16BE, UTF16-LE, etc.)
- Binary (raw bytes)

EXAMPLE PROGRAM:

```
#include <iostream>
using namespace std;

int main() {
    int num1 = 70;
    double num2 = 256.783;
    char ch = 'A';

    cout << num1 << endl; // print integer
    cout << num2 << endl; // print double
    cout << "character: " << ch << endl; // print char
    return 0;
}
```



Output

70
256.783
character: A

Optional

Object I/O

DataInputStream/DataOutputStream enables you to perform I/O for primitive type values and strings.
ObjectInputStream/ObjectOutputStream enables you to perform I/O for objects in addition for primitive type values and strings.

