Console Output

C++ uses an object-oriented library named `<iostream>` for input and output. The C++ standard library contains several predefined **stream objects**. Here are two:

- **`cout`**: **standard output**; similar to **`System.out`** in Java or **`stdout`** in Python.
- **`cin`**: **standard input**; similar to a **`Scanner`** object in Java or **`stdin`** in Python.

To use these objects, include these headers:

```
#include <iostream>   // standard stream objects
#include <iomanip>    // "manipulators" for output formatting
```

The **manipulators** in **`<iomanip>`** control the formatting of real numbers.

Streams can be thought of as **data flowing sequentially from** a source that produces it, and **flowing to** a destination, where it is displayed or saved. You **insert** a value into the stream and it eventually reaches its destination.

The **insertion** (or output) **operator** is the symbol pair (**`<<`**) pointing **to** an **output stream object.** On the right of the operator are the values to insert into the stream.

```
cout << "I am now " << 73 << " years old!" << endl;
```

- The words **`"I am now"`** are called a **string literal**, text enclosed in double quotes.
- Numbers **are not enclosed in quotes**; **`cout`** has the ability to convert binary values into their textual form.
- To end output line, you can use the **newline** escape character (**`\n`**) or the **`endl`** (*end-el*) **stream manipulator** object as is done here.

An output statement may **insert several values** into the stream, but each must have its own insertion operator.

If you need to print special characters (like a double quote, or a backslash), then use the same sort of **escape sequences** that you employed in Java or Python:

```
cout << "\"Hooray\", the crowd cheered!" << endl;
```