NOI 2020 C++ Basics Course Content
Note 4

Input Output

Input

Now that we know how to store a value inside a variable to use later, let's look into how to read a value from a user and use it in our code.

Input can be taken from various sources such as from keyboard, from a file, etc.

The most important technique of input for a competitive programmer is taking input from the keyboard. That is what we'll look into in this section.

Keywords : cin

cin is used to get a reading from the console (keyboard input).

cin is used with the extraction operator (>>)

How to use

Reading a single variable.

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

int main() {
  int x;
  cin>>x;
  cout << x;
  return 0;
}
Output: this will print whatever value is entered for x
```

Reading multiple variables at once.

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

int main() {
  int x,y,z;
  cin>>x>>y>>z;
  cout << x<<" "<<y<<" "<<z;
```

```
    return 0;
  }
  Output: this will print whatever value is entered for x,y and z
```

Output

Output is often displayed in the console (there are other ways too such as writing to a file). In this section we'll look into how to display some values on the console.

Keyword : cout
cout is used with the insertion operator (<<)

How to use
Printing one variable:

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

int main() {
  int x = 10;
  cout << x;
  return 0;
}

Output: this will print whatever value is entered for x
```

Printing multiple variables

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

int main() {
  int x = 10,y=20, z=30;
  cout << x<<" "<<y<<" "<<z;
  return 0;
}

Output: this will print whatever value is entered for x,y and z
```

Printing in multiple lines

To break a line while printing displaying data, you can use either print a "n" or use endl keyword.

Eg:
- cout<<"First line \n Second line";
  Output:
  > First line
  > Second line
- cout<<"First line"<<endl<<"Second line";
  Output:
  > First line
  > Second line

Extra resources:
- Input and output
  Video:
  - https://www.youtube.com/watch?v=S8rICXxrKU4
  - https://www.youtube.com/watch?v=gBLGkWZQYl8

  Reading:
  - https://www.tutorialspoint.com/cplusplus/cpp_basic_input_output.htm
  - https://www.w3schools.com/cpp/cpp_new_lines.asp