Input and output operation

Using the input and output statement the program can communicate with the outside the world. C++ provides the 2 useful operators for this purpose **>>** (this symbol is called **stream extraction operator**) for input and **<<** (this symbol is called **stream insertion operator**) for output.

The **cin** is used for input and is defined as object in the header file iostream.h. The >> can also be called as get from or extraction operator.

 The **cout** is used for output and is represented by << operator and it can also be called as insertion or put to operator

cout<<"Hello"; // will print the message on screen

cout<< 120; // will print 120 on screen

cout<<x ; // will print the content of variable x on screen

The sentence enclosed within side of double quote will print as it is

The **cin** We can handle input function by overloading >> operator on the cin stream .This must be followed variable that will store the data that is going to read

Example

int rno;

cin>>rno;

declares a variable rno of type integer and then waits for an input from the key board in order to store the integer value in this variable.

cin can only read the value from the key board and returns the key pressed

Example : to illustrate i/o

```
#include<iostream.h>
void main()
{
int a;
cout<<"enter an integer value";
cin>>a;
cout<<"The value you entered is "<<a;
cout<< " and its square is "<<a*a;
}
```

Output:

enter an integer value 2

The value you entered is2 and its square is 4

You can also use the cin statement to read the more than one value input from the user by single statement instead of two statement as shown below

cin>>a>>b;

it is same as

cin>>a;

cin>>b;

Similarly we can even output multiple results in a single cout statement using cascading of stream insertion operator as shown below

cout <<"The product of "<<a<<"and"<<b<<"="<<a*b;

It is same as

cout<<"the product of";

cout<<a;

cout<<"and";

cout<<b;

cout<<"=";

cout<<a*b;

NOTE:

1) Cascading input output operator: If a program requires more than one input or output then it is possible to combine in a single cin or cout statement by using multiple stream extraction or insertion is called cascading input output operator.

2) Manipulator: these are operators used along with insertion operator to manipulate or modify the output, some of them endl and setw

3) The definition of setw and endl is present under a header file **iomanip.h**

4) **endl** is used to end the line and is same as escape sequence \n

5) **setw** used to specify the filed width in the stream to be printed