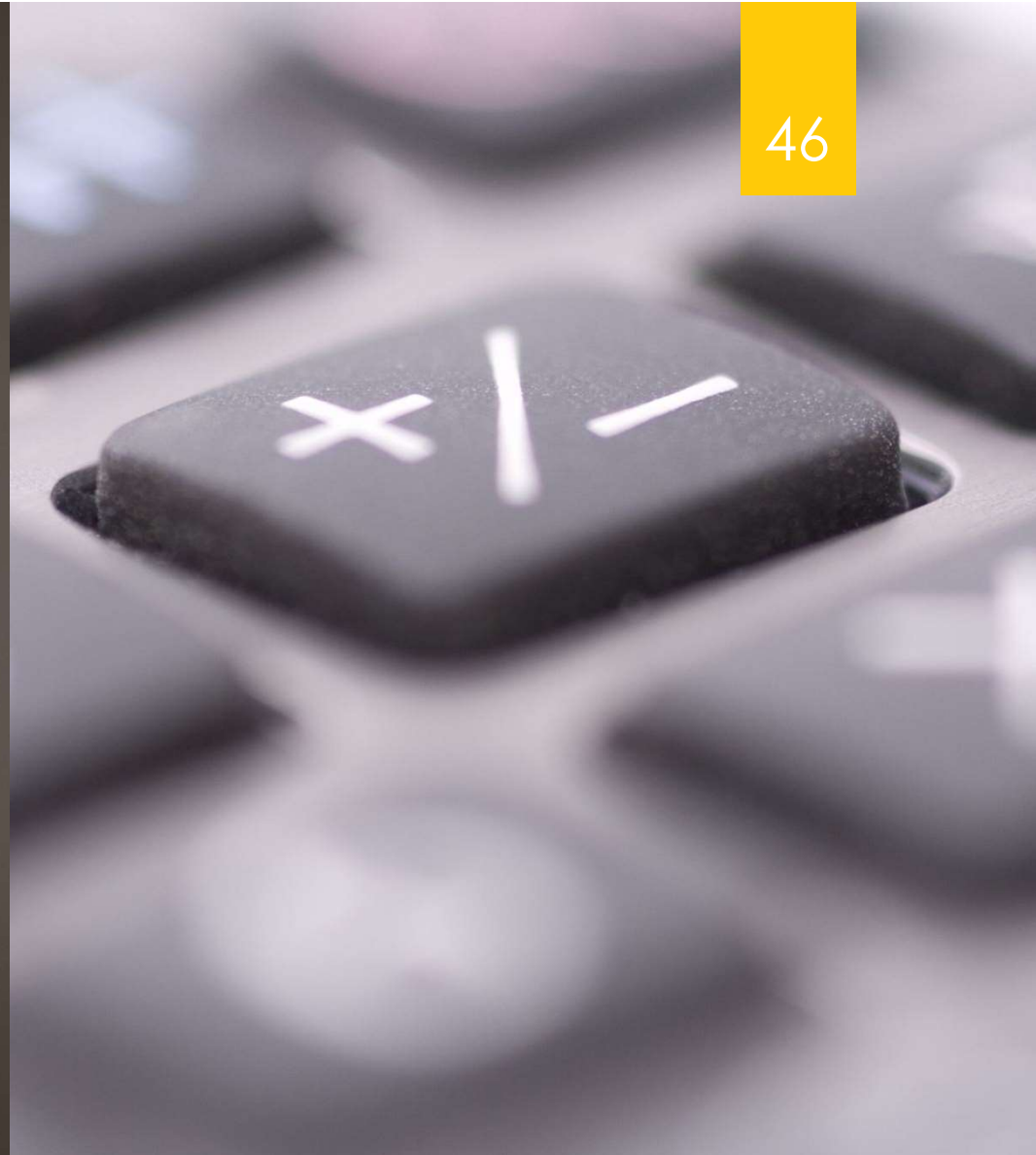


# I/O in C++

# Taking Input in C++

## ▶ **cin object:**

- ▶ Object of `istream` class just like `cout`
- ▶ Accepts input from the standard device i.e keyboard
- ▶ Extraction operator (`>>`) is used along with `cin`, for reading inputs
  - ▶ Extracts data from `cin`



```
// C++ program to demonstrate the
// cin object
#include <iostream>
using namespace std;

// Driver Code
int main()
{
    string s;

    // Take input using cin
    cin >> s;

    // Print output
    cout << s;

    return 0;
}
```

# Demo code for cin

# Demo code#02 for cin

## ► Taking Multiple Inputs:

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```
// C++ program to illustrate the take
// multiple input
#include <iostream>
using namespace std;

// Driver Code
int main()
{
    string name;
    int age;

    // Take multiple input using cin
    cin >> name >> age;

    // Print output
    cout << "Name : " << name << endl;
    cout << "Age : " << age << endl;

    return 0;
}
```

# Displaying Output in C++

## ▶ **cout object:**

- ▶ Object of iostream
- ▶ Display output to the standard device i.e monitor
- ▶ Uses Insertion operator << :
  - ▶ Inserts the data into the standard device

More than one variable can be printed using the insertion operator(<<) with cout.

```
// C++ program to illustrate printing
// of more than one statement in a
// single cout statement
#include <iostream>
using namespace std;

// Driver Code
int main()
{
    string name = "Akshay";
    int age = 18;

    // Print multiple variable on
    // screen using cout
    cout << "Name : " << name << endl
         << "Age : " << age << endl;

    return 0;
}
```

Output:

```
Name : Akshay
Age : 18
```



# Manipulators in C++

- ▶ **Manipulators** are helping functions:
  - ▶ Modify the input/output stream
  - ▶ We **don't change the value of a variable**, we just **change the format of display**
  - ▶ **#include<iomanip>** header file must be included
  - ▶ Manipulators can be **without arguments** like endl
  - ▶ Manipulators can be **with arguments** like setbase(), which can take 16,8,10

# Manipulators in C++

- ▶ **You can explore many more manipulators on the following link:**
  - ▶ <https://www.geeksforgeeks.org/manipulators-in-c-with-examples/?ref=lbp>



# Escape Sequences

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## Definition:

- Special Non-Printing characters
- Control the printing behavior of output stream objects like cout

## Syntax:

- Escape Sequences consists of two characters
  - First one is a backslash \ (escape character)
  - Second one is coded character which actually controls the printing behavior

Places where  
you can insert  
an escape  
sequence



Beginning of a string



In the middle of a string



At the end of a string

# Some commonly used escape sequences

Escape Sequence	Name	Description
\a	Alarm or Beep	It is used to generate a bell sound in the C program.
\b	Backspace	It is used to move the cursor one place backward.
\f	Form Feed	It is used to move the cursor to the start of the next logical page.
\n	New Line	It moves the cursor to the start of the next line.
\r	Carriage Return	It moves the cursor to the start of the current line.
\t	Horizontal Tab	It inserts some whitespace to the left of the cursor and moves the cursor accordingly.

<code>\\</code>	Backlash	Use to insert backslash character.
<code>\'</code>	Single Quote	It is used to display a single quotation mark.
<code>\"</code>	Double Quote	It is used to display double quotation marks.
<code>\?</code>	Question Mark	It is used to display a question mark.

Some commonly used escape sequences