# PRACTICAL 2: Conditional and loops

## AIM:

To write programs using conditionals and loops

## Theory:

**Loops:**

- **Syntax:**

  for (initial value; test; increment)

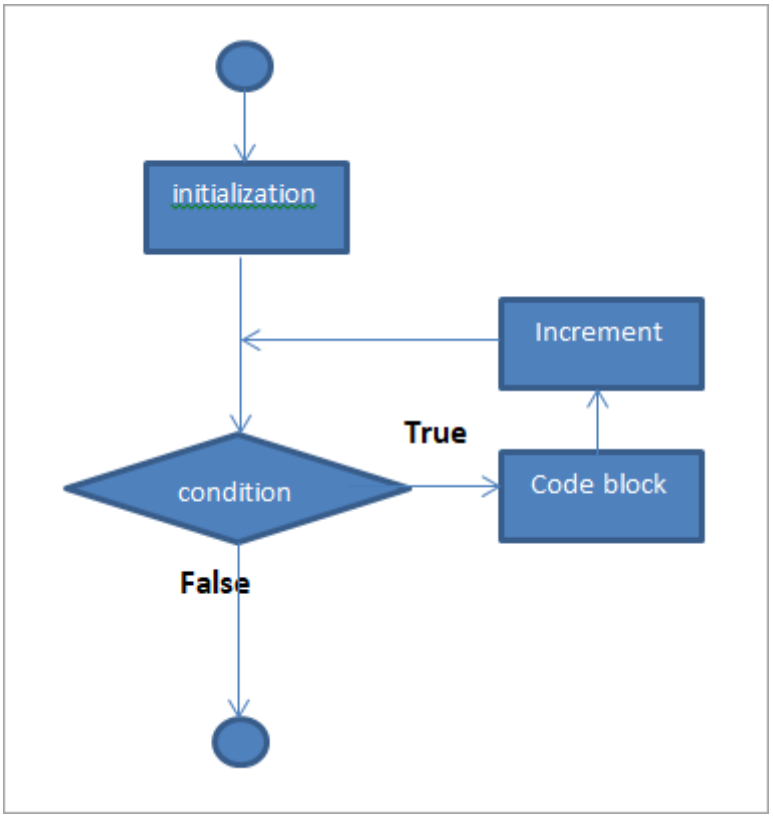
  {

  action1;

  }

  action2;

- **Diagram:**



**Conditionals:**

- **Syntax:**

  if (expression is true)

  {

  action1;

  }

  else

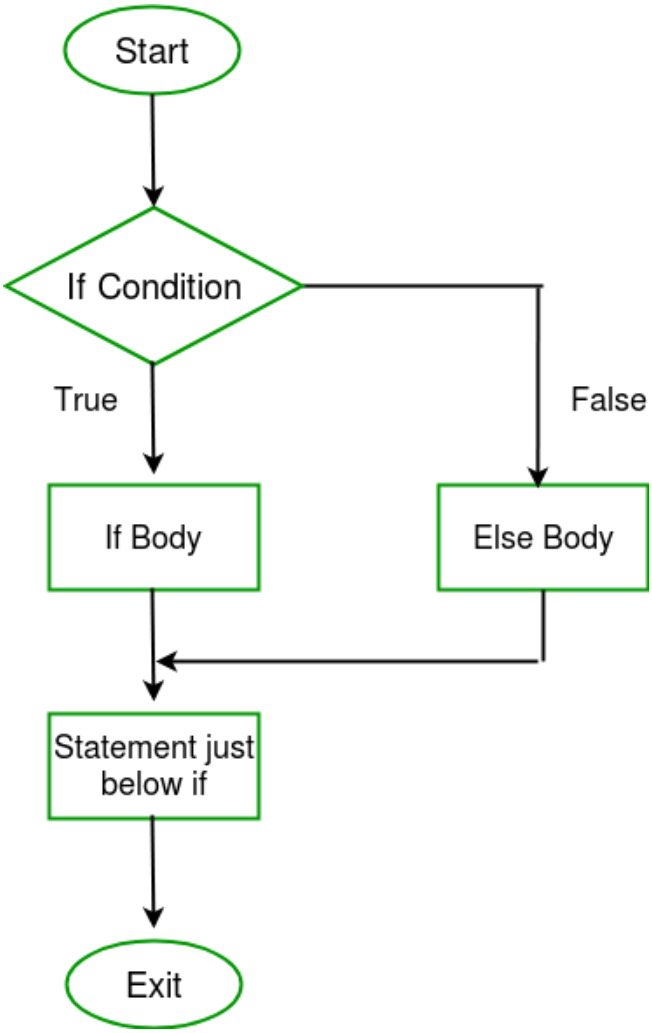
  {

  action2;

  }

  action3;

- **Diagram:**



**Q1. Write a program in C++ that takes a number as input and prints its multiplication table up to 10.**

**CODE:**

```
#include <iostream>

using namespace std;

int main()

{

   int num, mul;

   cout << "Enter a number: ";

   cin >> num;

   for (int i=1; i<=10; i++)

   {

      mul = num * i;

      cout << num << " x " << i << " = " << mul << endl;

   }
```

}**OUTPUT:**

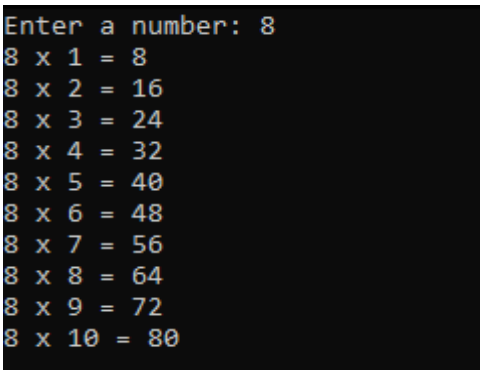



**Fig1. Output for C++ program to print its multiplication table up to 10**

## Q2. Write a C++ program which prints three highest numbers from entered 3 numbers

## CODE:

```
#include <iostream>

using namespace std;

int main()

{

   int a, b, c, highest;

   cout << "Enter 3 numbers: ";

   cin >> a >> b >> c;

   if (a > b && b > c)

   {

      cout << a << " is the highest number.";

   }

   else if (b > c)

   {

      cout << b << " is the highest number.";

   }

   else

   {

      cout << c << " is the highest number.";

   }

}
```

## OUTPUT:

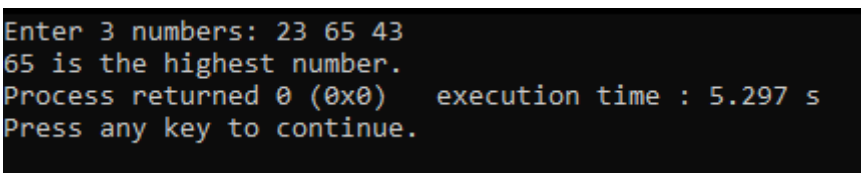



**Fig2. Output for C++ program which prints highest number out of 2 given numbers.**

## Q3. Write a C++ program to compute the sum of even numbers

## CODE:

```
#include <iostream>
using namespace std;
int main()
{
   int num, sum = 0;
   cout << "Enter a number: ";
   cin >> num;
   cout << "Numbers to be added: ";
   for (int i=1; i<=num; i++)
   {
      if (i % 2 == 0)
      {
         cout << i << " ";
         sum = sum + i;
      }
   }
   cout << "\nTotal of all numbers is: " << sum;
}
```

## OUTPUT:

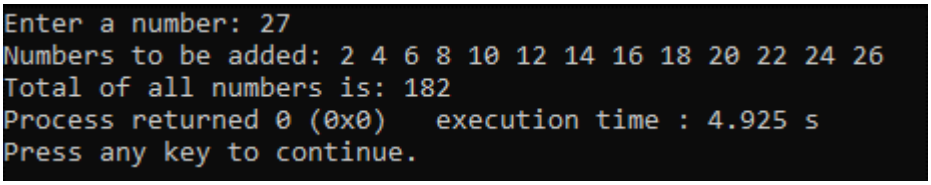



**Fig3. Output of C++ program to compute the sum of even numbers**

**Q4. Write a C++ program to accept side of a triangle and display equilateral, isosceles and scalene.**

**CODE:**

```
#include <iostream>

using namespace std;

int main()

{

   int a, b, c;

   cout << "Enter sides of a triangle: ";

   cin >> a >> b >> c;

   if (a == b && b == c)

   {

      cout << "It is an Equilateral triangle";

   }

   else if (a == b || b == c || a == c)

   {

      cout << "It is an isoceles triangle";

   }

   else

   {

      cout << "It is a scalar traingle";

   }

}
```

**OUTPUT:**

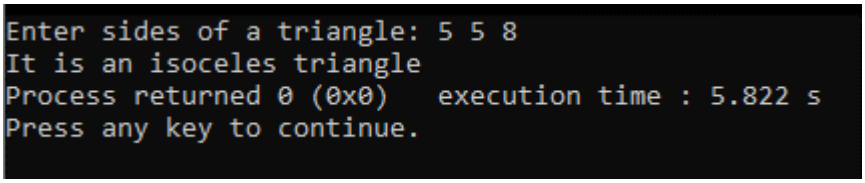



**Fig4. Output with the program identifying Isosceles triangle**

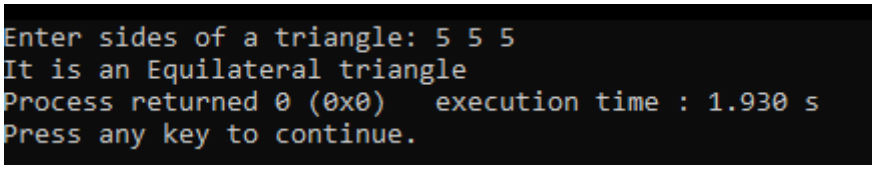



**Fig5. Output of the program identifying equilateral triangle**

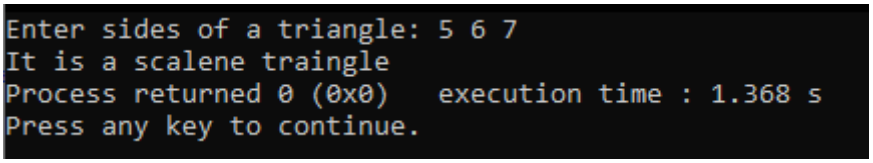



**Fig6. Output of the program identifying scalene triangle**