

**Don Bosco Institute of Technology, Kurla(W)**  
**Department of Electronics and Tele-Communication Engineering**  
**ECL304 - Skill Lab: C++ and Java Programming**  
**Sem III**  
**2021-22**

<b>Lab Number:</b>	<b>1</b>
<b>Student Name:</b>	<b>Deep Patel</b>
<b>Roll No :</b>	<b>8</b>

**Title:**

To Add Two Numbers, Print Number Entered by User, Swap Two Numbers, Check Whether Number is Even or Odd

1.1 Implement using C++

**Learning Objective:**

- Students will be able to write C++ program for simple arithmetic operations and take input from user.

**Learning Outcome:**

- Ability to execute a simple C++ program with and without any inputs to the program.
- Understanding the constructs in C++

**Course Outcome:**

<b>ECL304.1</b>	Understand object-oriented programming concepts and implement using C++ and Java
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**Theory:**

**(1) Difference between procedural and object oriented language:**

Object-oriented programming and procedural programming both are used to develop the applications. Both of them are high-level programming languages; and it is also important to know the difference between them.

- Procedural Language:

It is defined as a programming language derived from the structure programming and based on calling procedures. The procedures are the functions, routines, or subroutines that consist of the computational steps required to be carried. As compared to object-oriented programming, procedural programming is less secure.

- Object Oriented Programming language:

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In Object oriented programming, program is divided into small parts called objects. Object oriented programming follows bottom-up approach. Object oriented programming have access specifiers like private, public, protected etc. Object oriented programming provides data hiding so it is more secure.

**(2) Application of object orientation:**

- User interface design such as windows, menu.
- Real Time Systems
- Simulation and Modelling
- Object oriented databases

**(3) Brief introduction to C++ and Java:**

1. C++ is a general-purpose programming language that was developed as an enhancement of the C language to include object-oriented paradigm. It is an imperative and a compiled language.
2. The name of C++ signifies the evolutionary nature of the changes from C. “++” is the C increment operator. C++ is one of the predominant languages for the development of all kind of technical and commercial software.
3. C++ introduces Object-Oriented Programming, not present in C. Like other things, C++ supports the four primary features of OOP: encapsulation, polymorphism, abstraction, and inheritance.
4. C++ used in operating systems, game developments, IoT devices, Web browsers, financial tools, telecommunications, movie production etc.

**Algorithm:**

- Step 1: START
- Step 2: Initialize variables n1, n2 for storing the numbers entered by user.
- Step 3: Store numbers entered by user.
- Step 4: Display the entered numbers.
- Step 5: Storing the addition value of n1 and n2 in add variable.
- Step 6: Display the addition of numbers entered by user.

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Step 7: replacing the value of n1 in temp and n2 in n1 and then replacing the n2 value by temp value.

Step 8: Display the numbers after swapping .

Step 9: By using If-else condition number is divide by 2; if remainder is 0 then even number or it will be odd number.

Step 10: Display that the number is even or odd.

Step 11: STOP.

**Program:**

```
#include<iostream>

using namespace std;

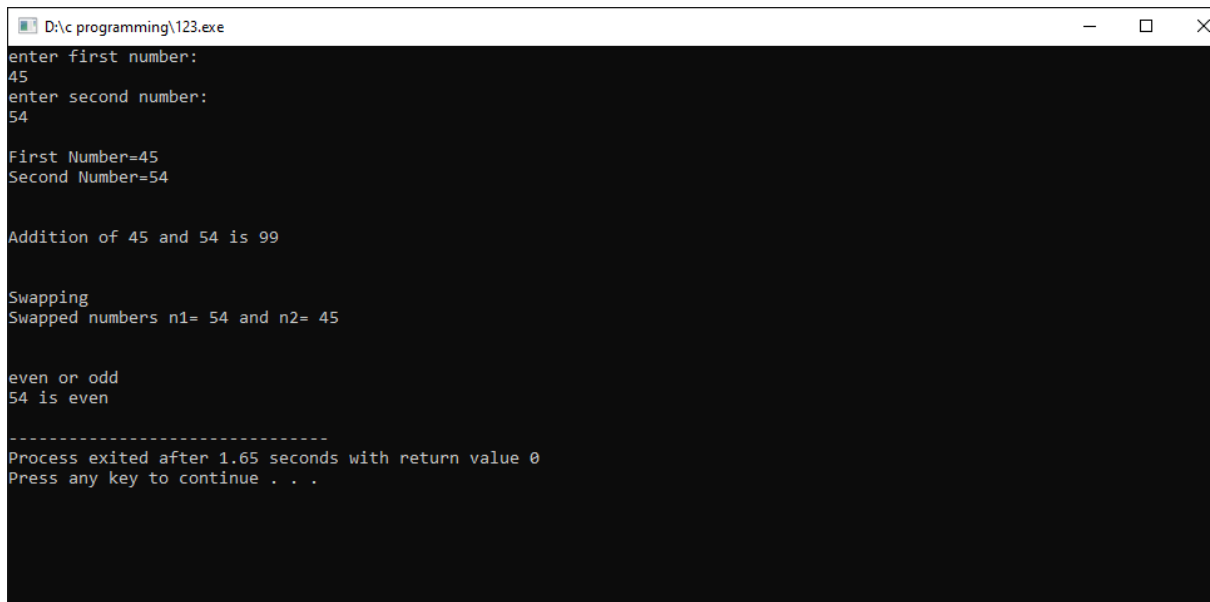
int main()
{
    int n1,n2,temp;
    cout << "enter first number:" << endl;
    cin >> n1;
    cout << "enter second number:" << endl;
    cin >> n2;
    cout << "\nFirst Number=" << n1 << endl << "Second Number=" << n2 << endl;
    cout << "\n\nAddition of " << n1 << " and " << n2 << " is " << n1+n2;
    cout << "\n\nSwapping \n";
    temp=n1;
    n1=n2;
    n2=temp;
    cout << "Swapped numbers n1= " << n1 << " and n2= " << n2 << endl;
    cout << "\n\neven or odd \n";
    if(n1%2==0)
        cout << n1 << " is even \n";
    else
```

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```
        cout<<n1<<" is odd \n";  
  
    return 0;  
  
}
```

**Input Given:** 45 and 54

**Output:**



```
D:\c programming\123.exe  
enter first number:  
45  
enter second number:  
54  
  
First Number=45  
Second Number=54  
  
Addition of 45 and 54 is 99  
  
Swapping  
Swapped numbers n1= 54 and n2= 45  
  
even or odd  
54 is even  
  
-----  
Process exited after 1.65 seconds with return value 0  
Press any key to continue . . .
```