

**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>1.1</b>
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<b>Roll No :</b>	<b>16</b>

**Title:**

To Add Two Numbers, Print Number Entered by User, Swap Two Numbers, Check Whether Number is Even or Odd 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++ 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++.
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**Theory:**

**1. Difference between procedural and object oriented language:**

**Procedural programming** uses a list of instructions to tell the computer what to do step-by-step. Procedural programming relies on - you guessed it - procedures, also known as routines or subroutines. A procedure contains a series of computational steps to be carried out. Procedural programming is also referred to as imperative programming. Procedural programming languages are also known as top-down languages.

**Object-oriented programming**, or **OOP**, is an approach to problem-solving where all computations are carried out using objects. An **object** is a component of a program that knows how to perform certain actions and how to interact with other elements of the program. Objects are the basic units of object-oriented programming.

**2. Application of object orientation:**

- User interface design such as windows, menu.
- Real Time Systems
- Simulation and Modeling

**Faculty: Ms. Deepali Kayande**

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- Object oriented databases
- AI and Expert System
- Neural Networks and parallel programming
- Decision support and office automation systems etc.

### **3. Brief introduction to C++:**

C++ (pronounced "see plus plus") is a programming language began as an expanded version of C. The C++ were first invented by Bjarne Stroustrup in 1979 at Bell Laboratories in Murray Hill, New Jersey. Bjarne Stroustrup initially called the new language "C with Classes." However, in 1983 the name was changed to C++. C++ is a middle-level programming language. C++ is a statically typed, compiled, general purpose, case -sensitive, free-form programming language that supports procedural, object-oriented, and generic programming.

#### **Algorithm To Add Two Numbers:**

1. Declare n1,n2
2. define n1 and n2
3. Print n1+n2

#### **Algorithm to Print Number Entered by User:**

1. Declare n3,n4
2. Input n3 and n4
3. Print n3, n4

#### **Algorithm to Print Number Entered by User:**

1. Declare n3,n4
2. Input n3 and n4
3. temp = n3
4. n3=n4
5. n3=temp
6. Print n3 and n4

#### **Algorithm to Check Whether Number is Even or Odd :**

1. Delare num, rem

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2. Input num
3. If rem % 2 == 0 Print even else  
Print odd

**Program:**

```
#include<iostream>

using namespace std; int
main()
{
/* To Add two numbers */
int num1,num2,result;

    num1=10;
num2=5;

    result= num1 + num2;
    cout<< num1 << "+" <<num2 <<"=" <<result<<endl;


/* To print two numbers */
int n3,n4,temp;

    cout<< "Enter two numbers :";

cin>> n3>>n4;

    cout<<"User entered numbers are: "<<n3 <<" and "<<n4<<endl;


/* To Swap two numbers */

    cout<< "Numbers before swapping:\n"<<n3<<" and "<<n4<<endl;
temp=n3;  n3=n4;  n4=temp;

    cout<< "\nNumbers after swapping:\n"<<n3<<" and "<<n4<<endl;
```

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**/\* To check whether a no is even or odd \*/**

```
int num;

    cout<< "Enter a number:";

cin>>num;    if(num%2==0)

    cout<<"Entered number is EVEN";

else

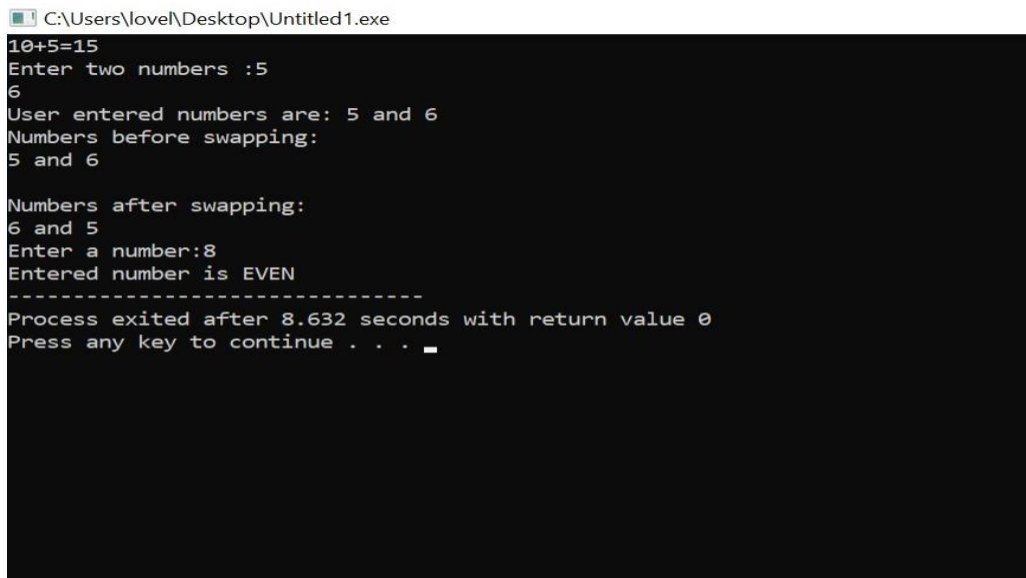
    cout<<"Entered number is ODD";

    return 0;

}
```

**Input given : n3=5, n4=6, num=8 Output**

**Screenshot:**



The screenshot shows a Windows command prompt window titled "C:\Users\lovel\Desktop\Untitled1.exe". The program's output is as follows:

```
10+5=15
Enter two numbers :5
6
User entered numbers are: 5 and 6
Numbers before swapping:
5 and 6

Numbers after swapping:
6 and 5
Enter a number:8
Entered number is EVEN
-----
Process exited after 8.632 seconds with return value 0
Press any key to continue . . .
```

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