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

Lab Number:	**1**
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Roll No :	**36**

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++

1.2 Implement using Java

Learning Objective:

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

Learning Outcome:

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

Course Outcome:

ECL304.1	Understand object-oriented programming concepts and implement using C++ and Java

Theory:

Difference between procedural and object oriented language

Procedural	**Object oriented language**
In procedural programming, program is divided into small parts called functions.	In object oriented programming, program is divided into small parts called objects.
Procedural programming follows top down approach.	Object oriented programming follows bottom up approach.
In procedural programming, function is more important than data.	In object oriented programming, data is more important than function.

Faculty: Ms. Deepali Kayande

Application of object orientation: OOP can also be used in manufacturing and design applications, as it allows people to reduce the effort involved. For instance, it can be used while designing blueprints and flowcharts. (OOP) is a computer programming model that organizes software design around data, or objects, rather than functions and logic. An object can be defined as a data field that has unique attributes and behaviour.

Brief introduction to C++: C++ is both a procedural and object-oriented programming language.

C++ is a statically typed, compiled, general-purpose, case-sensitive, free-form programming language that supports procedural, object-oriented, and generic programming.

C++ is regarded as a middle-level language, as it comprises a combination of both high-level and low-level language features.

C++ PROGRAMS

1. TO ADD TWO NUMBERS
ALGORITHM:

Step 1: Start

Step 2: Initialize variable n1, n2

Step 3: Read a number n1

Step 4: Read a number n2

Step 5: Result n1 +n2

Step 6: Print n1 + n2

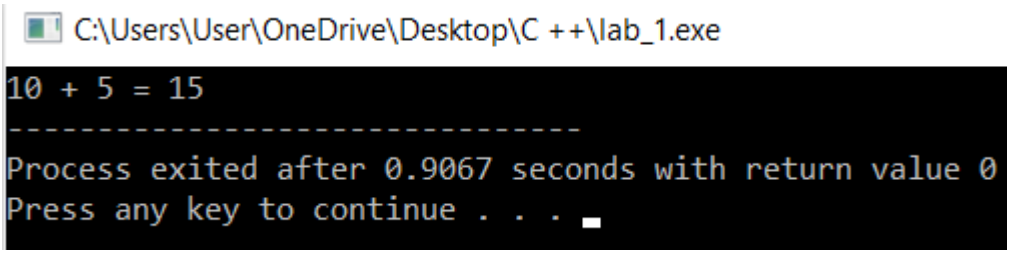
Step 7: Stop.

PROGRAM:

```
/* To Add two numbers */
#include<iostream>
using namespace std;
int main()
{
   int num1,num2,result;
      num1=10;
      num2=5;
```

```
    result= num1 + num2;
    cout<< num1 << "+" <<num2 <<"=" <<result;
return 0;
}
```

OUTPUT SCREENSHOT:



2. TO PRINT NUMBERS ENTERED BY USER
ALGORITHM:

Step 1: Start

Step 2: Initialize variable n1, n2

Step 3: input num1,num2

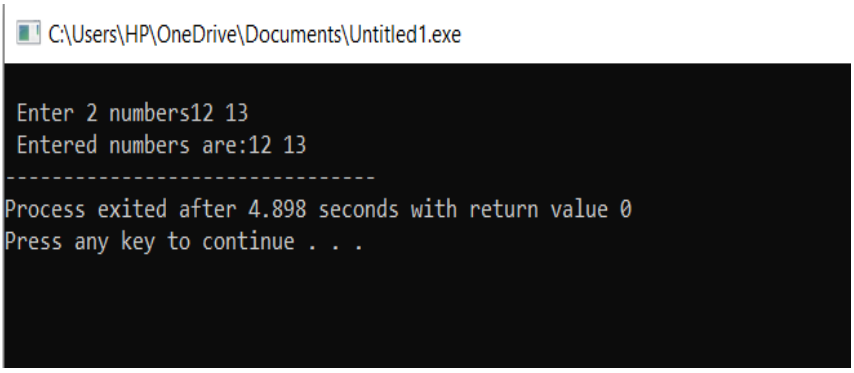
Step 4: Print num1,num2.

Step 5: Stop.

ROGRAM:

```
// Print Number Entered by
User #include<iostream>
using namespace std;
int main()
{
int num1,num2;
        cout<<"\n Enter 2 numbers";
        cin>>num1>>num2;
        cout<< " Entered numbers are:" << num1<< " " << num2;
        return 0;
}
```

OUTPUT SCREENSHOT:



3. TO SWAP TWO NUMBERS
ALGORITHM:
Step 1: Start

Step 2: Initialize variable n3, n4,temp

Step 3: input num3,num4

Step 4: n3=n4

Step5: n4=temp

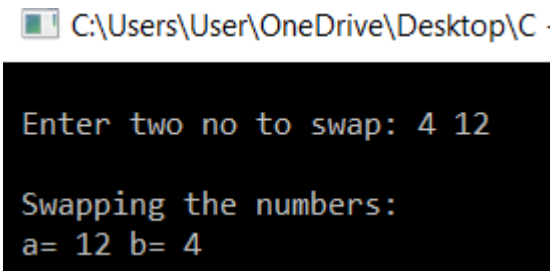
Step6:Print n3 and n4

Step 6: Stop.

PROGRAM:

```
//Swap Two Numbers

#include<iostream>
using namespace std;
int main()
{

 cout<< "Numbers before

    temp=n3;

    n3=n4;

    n4=temp;

    cout<< "\nNumbers after

 swapping:\n"<<n3<<" and "<<n4;

 return 0;

 }
```

OUTPUT SCREENSHOT:



4. TO CHECK WHETHER NUMBER IS EVEN OR ODD

ALGORITHM:

Step 1: Assign n1 with n2

Step 2: Assign n2 with temp

Step 3: Print n1 and n2

Step 4: Check if num1%2==0,

If true then,

Print n1 is even

Else

Print n1 is odd

Step 5: Stop.

PROGRAM:

```
/* 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;

}
```

OUTPUT SCREENSHOT: