Lab Number:	4
Student Name:	Anushk Sawant
Roll No :	06

Learning Objective:

- Students will be able to write C++ and java program for using classes and objects.

Learning Outcome:

- Ability to execute a simple C++ and Java program by accepting and displaying values using functions
- Understanding the classes and objects concept in C++ and Java.

Course Outcome:

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

Theory:

Explain about Constructor.

Explain about classes and objects in Java

How to access class attributes and methods? Explain with example

Title:

4.1 Write a Java program to Create a class Student with two method getData() and printData(). getData() to get the value from the user and display the data in printData(). Create the two objects s1 ,s2 to declare and access the values from class StudentTest.,

Algorithm:-

Step 1:- Input name, roll no, cgpa, div, branch.

Step 2:- Enter all the getData() condition for inputs.

Step 3:- give value for getData().

Step 4:-Give the data for printData() to grt outpt.

Step 5:- Output.

Program:-

```
#include<iostream>
using namespace std;
class Student {
public:
string name;
int roll_no;
float cgpa;
char div;
string branch;
void getdata()
{
cout<<"Enter your name:"<<endl;
cin>>name;
cout<<"Enter your roll number:"<<endl;
cin>>roll_no;
cout<<"Enter your CGPA:"<<endl;
cin>>cgpa;
cout<<"Enter your Division:"<<endl;
cin>>div;
cout<<"Enter your branch:"<<endl;
cin>>branch;
}
void getdata(string n,int r,float c,char d,string b)
{
name=n;
roll_no=r;
cgpa=c;
div=d;
branch=b;
}
void printdata()
{
cout<<"Name of the student: "<<name<<endl;
cout<<"Roll-no of the student: "<<roll_no<<endl;
cout<<"Cgpa of the student: "<<cgpa<<endl;
cout<<"Division of the student: "<<div<<endl;
cout<<"Branch of the student: "<<branch<<endl;
}
};
int main ()
```

```
{
Student s1;
Student s2;
s1.getdata();
s1.printdata();
s2.getdata();
s2.printdata();
return 0;



}
```

Input and Output:-

```
Enter your name:
Anushk
Enter your roll number:
06
Enter your CGPA:
9.69
Enter your Division:
B
Enter your branch:
Extc
Name of the student: Anushk
Roll-no of the student: 06
Cgpa of the student: 9.69
Division of the student: B
Branch of the student: Extc
```

4.2 Write a Java program for Basic bank Management System

Algorithm:-

Step 1:- Input name, account_type,account_number,amount,balance.

Step 2:- Enter for a deposit and all the condition.

Step 3:- Enter for a withdraw and all the condition.

Step 4:- Enter for a display and all the conditions.

Step 5:- Enter the option for yes and no

Step 5:- Output

Program:-

```
#include<iostream>
                using namespace std;
                class BankLab2 {

                        public:
                        string name;
                        char account_type;
                        int account_number,amount;
```

```
float balance;

BankLab2(string n,int a, char t, float b) {
        name = n;
        account_number=a;
        account_type=t;
        balance=b;
}

int deposit()
{
        cout<<"Enter the amount to deposit: ";
   cin>>amount;
        if(amount<0)
        {
                cout<<"Invalid amount,Enter a valid amount";
                return 0;
        }
        balance=balance+amount;
        return 1;
}

int withdraw()
{
        cout<<"Your Balance= "<<balance;
        cout<<"Enter amount to withdraw: ";
        cin>>amount;
        if (balance<amount)
        {
                cout<<"Insufficient Balance: ";
                return 0;
        }
        if(amount<0)
        {
                cout<<"Invalid amount";
                return 0;
        }
        balance=balance-amount;
        return 1;
}

void display()
{
```

```
        cout<<"Name :"<<name;
        cout<<"Account Number:"<<account_number;
    cout<<"Account Type:"<<account_type;
    cout<<"Balance: "<<balance;
        }
};
    int main()
    {
        int account_number;
         char ans;
        BankLab2 b1("salman",1,'s',2000);
        BankLab2 b2("makarand",2,'s',2000);
        BankLab2 b3("siddharth",3,'s',2000);

        cout<<"Menu"<<endl;
        cout<<"1.Deposit"<<endl;
        cout<<"2.Withdraw"<<endl;
        cout<<"3.Display"<<endl;
        cout<<"Enter option"<<endl;

    int op;

        cin>>op;
                do
                {
                        cout<<"Please enter your account
number:"<<endl;
                        cin>>account_number;
                                switch(account_number)
                                {
                                        case 1: if(op==1)

        b1.deposit();
                                                        if(op==2)

        b1.withdraw();
                                                        if(op==3)

        b1.display();

                                                        break;
                                                case 2: if(op==1)
```

```
                b2.deposit();
                                                        if(op==2)

                b2.withdraw();
                                                        if(op==3)

                b2.display();

                                                        break;
                                            case 3: if(op==1)

                b3.deposit();
                                                        if(op==2)

                b3.withdraw();
                                                        if(op==3)

                b3.display();

                                                        break;
                                            default: cout<<"Enter value
between 1 to 3";
                                                        break;
                                        }
                        cout<<"Do you want to continue?[Y/N]";
                                        cin>>ans;
                                        if(ans=='Y' || ans == 'y')
                                        {
                                        cout<<"Menu\n";
                                    cout<<"1.Deposit\n";
                                    cout<<"2.Withdraw\n";
                                cout<<"3.Display\n";
                                        cout<<"Enter option\n";
                                        cin>>op;
                                        }

                                    }
                                    while(ans!='N');

                }
```

Input and Output:-

```
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
1
Please enter your account number:
1234
Enter the amount to     deposit: 500
Do you want to continue?[Y/N]Y

Menu
1.Deposit
2.Withdraw
3.Display
Enter option
2
Please enter your account number:
1000
Your Balance= 2000Enter amount to wit
hdraw: 500
Do you want to continue?[Y/N]N
```