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:	**3**
Student Name:	**Sarika Laxmikant Galphade.**
Roll No :	**36**

Title:

3.1 Write a C++ 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.

3.2 Write a C++ program for Basic bank Management System

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:

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
In procedural programming, function is more important than data.	In object oriented programming, data is more important than function.
Procedural programming follows top down approach.	Object oriented programming follows bottom up approach.

Application of object orientation:

OOP can also be used in manufacturing and design applications, as it allows people to reduce the effort involved.

it can be used while designing blueprints and flowcharts. So it makes it possible to produce these flowcharts and blueprint accurately.

Brief **introduction to C++ :**

C++ is a cross-platform language that can be used to create high-performance applications.
C++ was developed by Bjarne Stroustrup, as an extension to the C language.
C++ gives programmers a high level of control over system resources and memory.
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.

3.1 Write a C++ 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 :	Step1: Start Step2: Define Class Student Step3: Define attributes – Name , Roll_no, cgpa, div . Step4: Define and declare method – getdata() to get input fromuser. Step5: Define and declare method – printdata() to print the values Step6: Define Main function() Step7: Create object s1, s2 to call the class functionality. Step8: End.
Program:	**#include<iostream>** **using namespace std;** **class Student** **{** **public:**

```
string name;
int roll_no;
char div;
float cgpa;
void getdata()
{
cout<<"Enter the name of the student:"<<endl;
cin>>name;
cout<<"Enter the roll-no of the student: "<<endl;
cin>>roll_no;
cout<<"Enter the Division of the student: "<<endl;
cin>>div;
cout<<"Enter the cgpa of the student: "<<endl;
cin>>cgpa;
}
/*int getdata(string n,int r,char d,float c)
{
name=n;
roll_no=r;
div=d;
cgpa=c;
return 0;
}*/
void printdata()
{
cout<<"Name of the student: "<<name<<endl;
cout<<"Roll-no of the student: "<<roll_no<<endl;
cout<<"Division of the student: "<<div<<endl;
```

<table>
<tr><td></td><td>

```
cout<<"The cgpa obtained by the student: "<<cgpa<<endl;
}
};
int main()
{
Student s1;
Student s2;
s1.getdata();
s1.printdata();
return 0;
}
```

</td></tr>
<tr><td>Input given:</td><td>Sarika
36
A
9.50</td></tr>
<tr><td>Output Screenshot:</td><td>

```
Enter the name of the student:
Sarika
Enter the roll-no of the student:
36
Enter the Division of the student:
A
Enter the cgpa of the student:
9.50
Name of the student: Sarika
Roll-no of the student: 36
Division of the student: A
The cgpa obtained by the student: 9.5


...Program finished with exit code 0
Press ENTER to exit console.
```

</td></tr>
</table>

3.2 Write a C++ program for Basic bank Management System

Algorithm :	Step1: Start Step2: Define Class BankLab 2 Step3: Define attributes – Name,account type, account number ,amount ,balance. Step4: Declare attributes by using constructor of class. Step5: Define and declare method – deposit() to deposit theamount Step6: Define and declare method – withdraw() to withdraw theamount Step7: Define and declare method – display() to display theaccount details Step8: Define Main function() Step9: Create object b1, b2, b3 to call the class functionality. Step10: Do – while loop to repeat the process. Step11: End
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<<endl;
cout<<"Account Number:"<<account_number<<endl;
 cout<<"Account Type:"<<account_type<<endl;
cout<<"Balance: "<<balance<<endl;
}
};
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";** **cout<<"1.Deposit";** **cout<<"2.Withdraw";** **cout<<"3.Display";** **cout<<"Enter option";** **cin>>op;** **}** **}** **while(ans!='N');** **}**
Input given:	**Enter option: 3** **Enter account number:2**
Output Screenshot: