

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:	Sanskar Kumar
Roll No :	35

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

Procedure Oriented Programming.

- In procedural programming, program is divided into small parts called functions.
- Procedural programming follows top down approach.
- There is no access specifier in procedural programming.
- Procedural programming does not have any proper way for hiding data so it is less secure.

Faculty: Ms. Deepali Kayande

Object Oriented Programming

- 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.

Application of object orientation

- Client-server system: Object-oriented client-server system provides the IT infrastructure creating object-oriented server internet(OCSI) applications.
- Object-oriented database: The databases try to maintain a direct correspondence between the real world and database object in order to let the object retain its identity and integrity.
- Stimulation and modeling system: It is difficult to model complex systems due to varying specifications of variables. Stimulating complex systems require modeling and understanding interaction explicitly. OOP provides an appropriate approach for simplifying these complex models.
- Real-Time System design: Real-time system inherits complexities and makes it difficult to build them. OOP techniques make it easier to handle those complexities.

Hypertext and Hypermedia: Hypertext is similar to regular text as it can be stored, searched, and edited easily. Hypermedia on the other hand is

a superset of hypertext. OOP also helps in laying the framework for hypertext and hypermedia.

Brief introduction to C++ and Java

C++

Object-oriented programming was developed since drawbacks were discovered in languages such as C, Simula, ALGOL, BPCL etc. Bjarne Stroustrup, a Danish computer scientist began working on C++ in 1979. At that time these languages already existed and had varied uses. His idea was to use C as a base and include features of Simula (An OOP language) that would promote features such as code reusability, general level abstraction etc. According to Stroustrup the '++' in C++ (post increment operator) symbolizes the evolutionary changes made to C.

In object-oriented programming (OOP) the logical arrangement of the code is changed. Instead of storing functions into different files, functionality is tightly grouped with the type that it operates on. The OOP style groups all the operations together according to what they operate on. It no longer requires any special skill to keep them separate. The language itself makes it most convenient to proceed. The strength of OOP helps the most when writing large programs, in teams and while packaging the code into libraries for use by others.

JAVA

JAVA was developed by James Gosling at Sun Microsystems Inc in the year 1991, later acquired by Oracle Corporation. It is a simple programming language. Java makes writing, compiling, and debugging programming easy. It helps to create reusable code and modular programs.

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

Java is a class-based, object-oriented programming language and is designed to have as few implementation dependencies as possible. A general-purpose programming language made for developers to write once run anywhere that is compiled Java code can run on all platforms that support Java. Java applications are compiled to byte code that can run on any Java Virtual Machine. The syntax of Java is similar to c/c++.

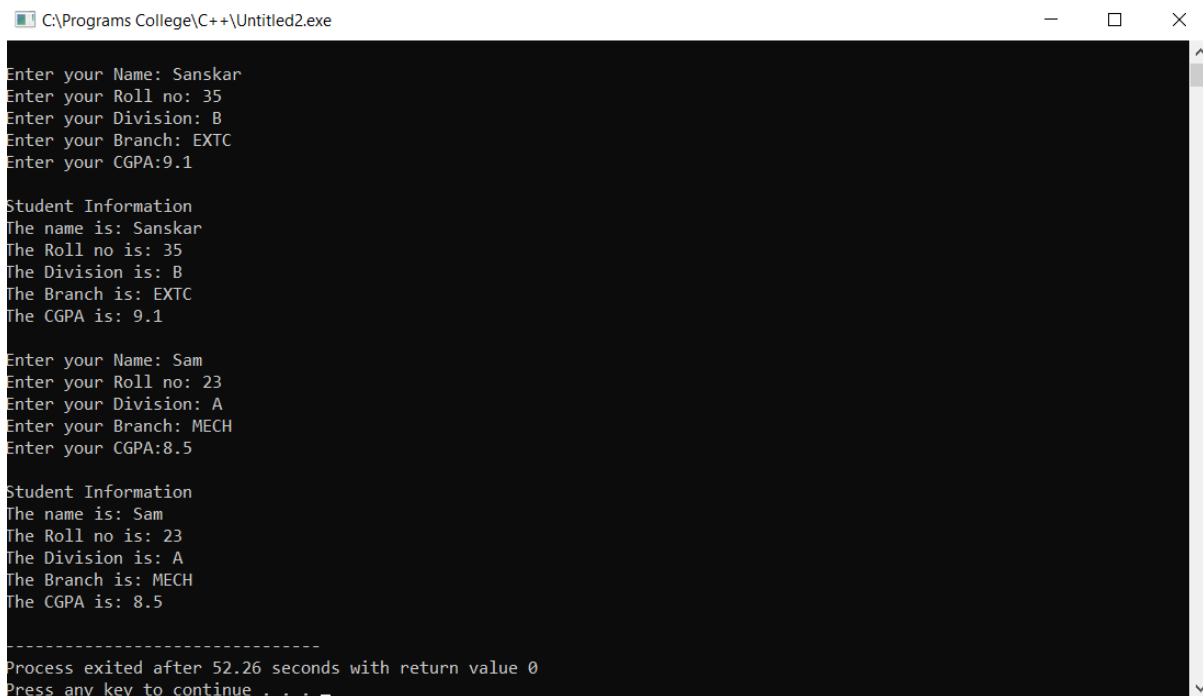
3.1 Write a C++ program to Create a class Student with two method getData() and printData(). getData() to get the value from the user and display the data in printData(). Create the two objects s1 ,s2 to declare and access the values from class StudentTest.

Algorithm :	STEP 1. Start STEP 2. Define Class Student STEP 3. Define attributes – Name , Roll_no, cgpa, div , branch STEP 4. Define and declare method – getdata() to get input from user. STEP 5. Define and declare method – printdata() to print the values STEP 6. Define Main function() STEP 7. Create object s1, s2 to call the class functionality. STEP 8. Print result STEP 9. End.
Program:	https://github.com/SanskarKumar777/Skill-Lab-with-OOPM/commit/4025690263e0e786fad324931ee2dd9b1ee59679
Input given:	Sanskar 35 B EXTC 9.1

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

	Sam 23 A MECH 8.5
--	--

OUTPUT SCREENSHOT:



```
C:\Programs College\C++\Untitled2.exe
Enter your Name: Sanskar
Enter your Roll no: 35
Enter your Division: B
Enter your Branch: EXTC
Enter your CGPA:9.1

Student Information
The name is: Sanskar
The Roll no is: 35
The Division is: B
The Branch is: EXTC
The CGPA is: 9.1

Enter your Name: Sam
Enter your Roll no: 23
Enter your Division: A
Enter your Branch: MECH
Enter your CGPA:8.5

Student Information
The name is: Sam
The Roll no is: 23
The Division is: A
The Branch is: MECH
The CGPA is: 8.5

-----
Process exited after 52.26 seconds with return value 0
Press any key to continue . . .
```

Faculty: Ms. Deepali Kayande

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

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

Algorithm	STEP 1. Start STEP 2. Define Class BankLab 2 STEP 3. Define attributes – Name , account_type , account_number, amount, balance. STEP 4. Declare attributes by using constructor of class. STEP 5. Define and declare method – deposit() to deposit the amount STEP 6. Define and declare methods – withdraw() to withdraw the amount STEP 7. Define and declare methods – display() to display the account details STEP 8. Define Main function() STEP 9. Create object b1, b2, b3 to call the class functionality. STEP 10. Do – while loop to repeat the process. STEP 11. Print result STEP 12. end
Program	https://github.com/SanskarKumar777/Skill-Lab-with-OOPM/commit/4025690263e0e786fad324931ee2dd9b1ee59679
Given Input:	Enter option 2 Please enter your account number: 2 Your Balance= 2000Enter amount to withdraw: 500 Do you want to continue?[Y/N]Y Enter option 3

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

	<p>Please enter your account number:</p> <p>2</p> <p>Name :makarand</p> <p>Account Number:2</p> <p>Account Type:s</p> <p>Balance: 1500</p> <p>Do you want to continue?[Y/N]N</p>
--	---

OUTPUT SCREENSHOT:

```
C:\Programs College\C++\Untitled2.exe
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
2
Please enter your account number:
2
Your Balance= 2000Enter amount to withdraw: 500
Do you want to continue?[Y/N]Y
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
3
Please enter your account number:
2
Name :makarand
Account Number:2
Account Type:s
Balance: 1500
Do you want to continue?[Y/N]N
-----
Process exited after 57.32 seconds with return value 0
Press any key to continue . . .
```