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:	**4**
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Roll No :	13

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.

4.2 Write a Java 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:

Explain about Constructor.

A constructor is a block of codes similar to the method. It is called when an instance of the class is

created. At the time of calling constructor, memory for the object is allocated in the memory.It is a

special type of method which is used to initialize the object.

Every time an object is created using the new() keyword, at least one constructor is called.It calls a

default constructor if there is no constructor available in the class. In such case, Java compiler

provides a default constructor by default.

There are two types of constructors in Java: no-arg constructor and parameterized constructor.

Explain about classes and objects in Java

CLASS: It is a user defined blueprint or prototype from which objects are created. It represents

the set of properties or methods that are common to all objects of one type. In general, class

declarations can include these in order:

1. Modifiers: A class can be public or has default access class keyword: class keyword is used to

create a class.

2. Class name: The name should begin with an initial letter (capitalized by convention).

3. Superclass (if any): The name of the class's parent (superclass), if any, preceded by the keyword

extends. A class can only extend (subclass) one parent.

4. Interfaces (if any): A comma-separated list of interfaces implemented by the class, if any,

preceded by the keyword implements. A class can implement more than one interface.

5. Body: The class body surrounded by braces, { }.

OBJECTS: It is a basic unit of Object-Oriented Programming and represents the real life

entities. A typical Java program creates many objects, which as you know, interact by

invoking methods. An object basically consists state, behaviour, identity.

How to access class attributes and methods? Explain with example

You can access attributes by creating an object of the class, and by using the dot syntax (.)In the

example we will create an object of the Main class, with the name myObj. We use the x attribute on

the object to print its value.

EG. Create an object called "myObj" and print the value of x:

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METHODS: Methods define behaviour of a class. A method contains business logic which is executed

when the method is invoked. Methods are the ways to manipulate objects data. Let's take a look at

the below example

Syntax of a method :

<access-modifier> <return-type> <name-of-the-method> ({optional}<type-of-parameter> <name-of-

the-parameter>){ //method logic //method logic }

example: public void displayPlayerInfo()

Algorithm :	4.1 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. 4.2 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 results STEP 12. end
Program:	https://github.com/kanishkadbit/skill-labs-with-OOPM/blob/main/13_Lab4
Input given:	4.1 Aryan 13 B Mech 9.8 Vidhu 25 B Mech 9.54 4.2 3 2 1
Output Screenshot:	4.1

```
Enter your name:
Aryan
Enter your roll number:
13
Enter your CGPA:
9.8
Enter your Division:
B
Enter branch:
Mech
Name of the student: Aryan
Roll-no of the student: 13
Cgpa of the student: 9.8
Division of the student: B
branch of the student: M
Enter your name:
Vidhu
Enter your roll number:
25
Enter your CGPA:
9.54
Enter your Division:
B
Enter branch:
Mech
Name of the student: Vidhu
Roll-no of the student: 25
Cgpa of the student: 9.54
Division of the student: B
branch of the student: M

[Program finished]
```

4.2

```
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
1
Please enter your account number:
2
Enter the amount to     deposit:
3000
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: 5000.0
Do you want to continue?[Y/N]
y
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
2
Please enter your account number:
2
Your Balance= 5000.0
Enter amount to withdraw:
4800
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: 200.0
Do you want to continue?[Y/N]
y
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
```