Lab Number:	4
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Roll No :	44

Title:

4.1 Write a Java program to Create a class Student with two methods 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 programs 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 the Constructor.

In Java, 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 the 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

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Explain about classes and objects in Java

Classes are a blueprint or a set of instructions to build a specific type of object. It is a basic concept of Object-Oriented Programming which revolves around real-life entities. Classes in Java determine how an ob-ject will behave and what the object will contain. Object is an instance of a class. An object in OOPS is nothing but a self-contained component which consists of methods and properties to make a particular type of data useful. For example: color name, table, bag, barking. When you send a message to an object, you are asking the object to invoke or execute one of its methods as defined in the class. From a programming point of view, an object in OOPS can include a data structure, a variable, or a function. It has a memory location allocated. Java Objects are designed as class hierarchies.

How to access class attributes and methods? Explain with example

We can access attributes and methods of a class by creating an object. For ex:

```
 public class Main { int x = 5;

void getvalue();

 public static void main(String[] args)

{ Main myObj = new Main();

 myObj.get();

 System.out.println(myObj.x);

}

}
```

Algorithm :	1. Start
	2. Define Class Student
	3. Define attributes – Name , Roll_no, cgpa, div , branch
	4. Define and declare method – getdata() to get input from a user.
	5. Define and declare method – printdata() to print the values
	6. Define class student test
	7. Define public static Main function()

	8. Create object s1, s2 to call the class functionality. 9. End
Program:	https://github.com/umershaikh17/Skill-lab-with-oopm/blob/main/44_lab4students.java
Input given:	Name : Umer Roll number : 44 CGPA : 9.2 Div : B Branch : extc

OUTPUT :

```
/tmp/MADB6fY04f.o
Enter your name:
umer
Enter your roll number:
44
Enter your CGPA:
9.2
Enter your Division:
B
Enter your branch:
Extc
Name of the student: umer
Roll-no of the student: 44
Cgpa of the student: 9.2
Division of the student: B
Branch of the student: Extc
Enter your name:
```

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ALGORITHM 2 :

1. Start

2. Define Class BankLab 2

3. Define attributes – Name , account_type , account_number, amount, balance

4. Declare attributes by using the constructor of the class.

5. Define and declare method – deposit() to deposit the amoun

t 6. Define and declare method – withdraw() to withdraw the amount

7. Define and declare method – display() to display the account details

8. Define static void Main function()

9. Create object b1, b2, b3 to call the class functionality.

10. Do – while loop to repeat the process.

11. End

OUTPUT :

```
/tmp/cNWvYiVi0o.o
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
1
Please enter your account number:
2
Enter the amount to deposit: 100
Do you want to continue?[Y/N]y
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
```