

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 :	41

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
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Theory:

Explain about Constructor.

A constructor is a special type of function with no return type. Name of constructor should be same as the name of the class. We define a method inside the class and constructor is also defined inside a class. A constructor is called automatically when we create an object of a class.

Explain about classes and objects in Java

A class 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. 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.

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How to access class attributes and methods? Explain with example.

Attributes are an object's data, and methods are an object's code. An object's class defines which attributes and methods it will have.

Algorithm :	Step 1:START Step 2:Declare variables name and branch as string,rollno as int,cgpa as float Step 3:Create two objects s1 and s2 of class student Step 4:Call function getdata() Read name,branch,rollno,cgpa from user Step 5:Call function printdata() Print the values accepted from user Step 6:STOP
Program:	import java.util.Scanner; public class studenttest { Scanner in=new Scanner(System.in); String name,branch; int rollno; float cgpa; public void getdata() { Scanner sc=new Scanner (System.in); System.out.println("student name:"); }

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	<pre>name=sc.next(); System.out.println("student branch:"); branch=sc.next(); System.out.println("student rollno:"); rollno=sc.nextInt(); System.out.println("student cgpa:"); cgpa=sc.nextFloat(); } public void printdata() { System.out.println("student name:"+name); System.out.println("student branch:"+branch); System.out.println("student rollno:"+rollno); System.out.println("student cgpa:"+cgpa); } };</pre>
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	<pre>public class studenttest { public static void main(String[] args){ student s1=new student(); student s2=new student(); s1.getdata(); s1.printdata(); s2.getdata(); s2.printdata(); } }</pre>
Input given:	
Output Screenshot:	

Algorithm :	<p>STEP 1: Start</p> <p>STEP 2: Enter account no</p> <p>STEP 3: Enter name</p> <p>STEP 4: Account info</p> <p>STEP 5: Stop</p>
Program:	<pre>import java.util.Scanner;</pre>

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	<pre>public class BankLab2 { Scanner in=new Scanner(System.in); String name; char account_type; int account_number,amount; float balance; public BankLab2(String n,int a, char t, float b) { // TODO Auto-generated constructor stub name = n; account_number=a; account_type=t; balance=b; } }</pre>
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	<pre> } int deposit() { System.out.println("Enter the amount to deposit: "); int amount=in.nextInt(); if(amount<0) { System.out.println("Invalid amount,Enter a valid amount"); return 0; } balance=balance+amount; return 1;</pre>
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	<pre> } int withdraw() { System.out.println("Your Balance= " +balance); System.out.println("Enter amount to withdraw: "); int amount=in.nextInt(); if (balance<amount) { System.out.println("Insufficient Balance: "); return 0; } if(amount<0) {</pre>
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```
        System.out.println("Invalid amount" );

        return 0;

    }

    balance=balance-amount;

    return 1;

}

void display()

{

    System.out.println("Name :"+name);

    System.out.println("Account Number:"
+account_number);

    System.out.println("Account Type:" +account_type);

    System.out.println("Balance: " +balance);

}
```


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```
public static void main(String[] args) {  
  
    // TODO Auto-generated method stub  
  
    Scanner in=new Scanner(System.in);  
  
    BankLab2 b1=new BankLab2("salman",1,'s',2000);  
  
    BankLab2 b2=new BankLab2("makarand",2,'s',2000);  
  
    BankLab2 b3=new BankLab2("siddharth",3,'s',2000);  
  
  
    System.out.println("Menu");  
  
    System.out.println("1.Deposit");  
  
    System.out.println("2.Withdraw");  
  
    System.out.println("3.Display");  
  
    System.out.println("Enter option");  
  
    int op=in.nextInt();
```

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	<pre>char ans; do { System.out.println("Please enter your account number:"); int account_number=in.nextInt(); switch(account_number) { case 1: if(op==1) b1.deposit(); if(op==2) b1.withdraw(); if(op==3) b1.display();</pre>
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	<pre>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)</pre>
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	<pre> b3.display(); break; default: System.out.println("Enter value between 1 to 3"); break; } System.out.println("Do you want to continue?[Y/N]"); ans=in.next().charAt(0); //char input in variable ans if(ans=='Y' ans == 'y') { System.out.println("Menu"); System.out.println("1.Deposit"); System.out.println("2.Withdraw"); </pre>
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	<pre>System.out.println("3.Display"); System.out.println("Enter option"); op=in.nextInt(); } } while(ans!='N'); } }</pre>
Input given:	<pre>700 Y 1</pre>

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**Output
Screenshot:**

```
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
700
Please enter your account number:
1
Do you want to continue?[Y/N]
Y
Menu
1.Deposit
2.Withdraw
3.Display
Enter option
```