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:	**8**
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Title:

1. To perform Multilevel Inheritance in JAVA. Create a Person class representing name, age and address. Inherit person class to employee class with emp ID and salary factor. Inherit the Employee class to programmer class with technical skills and hike attributes. Implement valid methods to input the details from the user in the main method and display for 3 programmers.
2. To perform in JAVA. Create an Employee class with attributes EmpID and EmpSalary. Also create necessary methods/constructors to accept these values from the user. Create classes permenantEmployee and TemporaryEmployee which will be derived classes of Employee. Mention hike attribute in these derived classes and calculate the total salary using generate_salary() method for respective types of employees. Objects of the derived classes should be created and salaries for the permanent and temporary employees should be calculated and displayed on the screen.

Learning Objective:

- Students will be able to perform multilevel inheritance using JAVA.
- Students will be able to perform hierarchical inheritance using JAVA

Learning Outcome:

- To understand how to use the private members using friend function and friend class.

  On the basis of class, there can be three types of inheritance in java: single, multilevel and hierarchical. In java programming, multiple and hybrid inheritance is supported through interface only. We will learn about interfaces later.

"Multiple Inheritance" refers to the concept of one class extending (Or inherits) more than one base class. The inheritance we learnt earlier had the concept of one base class or parent. The problem with "multiple inheritance" is that the derived class will have to manage the dependency on two base classes.

Course Outcome:

ECL304.2	Comprehend building blocks of OOPs language, inheritance, package and

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	interfaces.

Theory:

- Explain in details about various inheritance types supported in JAVA

Algorithm :	

Program:	package lab;
	import java.util.Scanner;
	class Employee{
	
	Scanner sc=new Scanner(System.in);
	int EmpId ,EmpSalary;
	void getInput() {
	System.out.println("Enter Employee ID:");
	EmpId =sc.nextInt();
	System.out.println("Enter Employee Salary:");
	EmpSalary =sc.nextInt();
	}
	}
	class permenantEmployee extends Employee{
	double hike=0.10;
	double Total;
	void generate_salary() {
	Total=EmpSalary+EmpSalary*hike;
	System.out.println("Total salary ="+Total);
	}
	}

```
class temporaryEmployee extends  Employee{
        double hike=0.05;
        double Total;
        void generate_salary() {
                Total=EmpSalary+EmpSalary*hike;
                System.out.println("Total salary ="+Total);
        }
}

public class Hierarchical {

        public static void main(String[] args) {
                // TODO Auto-generated method stub
                permenantEmployee p=new permenantEmployee();
                System.out.println("Information for permanant Employee");
      p.getInput();
      p.generate_salary();
      temporaryEmployee t=new temporaryEmployee();
      System.out.println("");
                System.out.println("Information for temporary Employee");
      t.getInput();
      t.generate_salary();
         }

}
```

Input given:	Salary =10000

Output Screenshot: