

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:	10
Student Name:	Rakshita Rajeev Khantwal
Roll No :	26

Title:

1. Write a java program to implement Multiple Inheritance using Interfaces. Create an interface called Management with selectCandidate() method. Another interface called Department with allotSubject() method. Class called HOD will implements these two interfaces and define the methods and access them with valid objects.

Learning Objective:

Students will be able to implement multiple inheritance using Interface concepts

Learning Outcome:

- Understanding the abstraction concept and hiding of the unnecessary code using interfaces.

Course Outcome:

ECL304.4	1. Implement different programming applications using packaging.
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Theory:

- Abstraction is a feature of OOPs. The feature allows us to hide the implementation detail from the user and shows only the functionality of the programming to the user. Because the user is not interested to know the implementation. It is also safe from the security point of view.
- In JAVA, the code implementation is hidden from the user and only necessary functionality is shown to the user. We can abstract it in two ways:

1. Using Abstract Class 2. Using Interface

- What is complete abstraction and how is it achieved in JAVA?

Using interface, we can get 100% abstraction.

An interface is similar to java classes. The difference is that an interface contains collection of abstract methods. The method that does not have a method body. The important point about an interface is that each method is public and abstract and does not contain any constructor. Along with the abstraction, it also helps to achieve multiple inheritance. The implementation of these methods provided by the clients when they implement the interface.

Faculty: Ms. Deepali Kayande

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- Explain multiple inheritance and how is it performed in Java?
Java does not support multiple inheritance for classes. This means that a class cannot extend more than one class. A class can implement one or more interfaces, which has helped Java get rid of the impossibility of multiple inheritance. The extends keyword is used once, and the parent interfaces are declared in a comma-separated list. It is basically a way to achieve complete abstraction.

Algorithm :	<p>STEP 1: Start</p> <p>STEP 2: Make an interface Management with method selectCandidate()</p> <p>STEP 3: Make another interface Department with method allotSubject()</p> <p>STEP 4: Make a class HOD and implement Management, Department in it.</p> <p>STEP 5: In main function create an object call the methods.</p> <p>STEP 6: Display OP</p> <p>STEP 7: Stop</p>
Program:	<pre>import java.util.Scanner; interface Management { public void selectCandidate(); } interface Department { public void allotSubject(); } public class HOD implements Management, Department { public void selectCandidate() { System.out.println("Industrial"); } public void allotSubject() { System.out.println("Fluid mechanics"); } public static void main(String args[]) { HOD obj = new HOD(); obj.allotSubject(); obj.selectCandidate(); } }</pre>

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	}
Input given:	-
Output Screenshot:	