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**Green University of Bangladesh**

**Department of Computer Science and Engineering (CSE)**

**Faculty of Sciences and Engineering**

**Semester: (Fall, Year: 2024), B.Sc. in CSE (Day)**

**Lab Report NO : 03**

**Course Title: OOP Lab**

**Course Code: CSE 202**

**Section: D9**

**Lab Experiment Name:**  Inheritance

**Student Details**

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**Lab Date : 14/09/24**

**Submission Date : 20/10/24**

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**[For Teachers use only: Don’t write anything inside this box]**

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| **Lab Report Status**  **Marks: ………………………………… Signature: .....................**  **Comments: .............................................. Date: ..............................** |

**1. INTRODUCTION**

The purpose of this lab reports is to know the concepts of interface, implements, override and access modifier in java program. Here, we will see how to implements multiples inheritance.

**2. OBJECTIVES**

The primary objectives of this lab report are as follows:

• Understand Inheritance by using interface in Java

• Implementing multiple inheritances

• Access modifiers

**3. IMPLEMENTATION**

Task 1: Implement multiple inheritances. 3 Classes A, B, C. Class C inherits both A and B and try various combinations of public, private, protected in the given code.

Solution:

interface A{

    public void showA();

}

interface B{

    public void showB();

}

class C implements A, B {

    @Override

    public void showA(){

        System.out.println("Class A");

    }

    @Override

    public void showB(){

        System.out.println("Class B");

    }

    private void showC(){

        System.out.println("Class C");

    }

    protected void callShowC(){

        showC();

    }

}

public class multipleInharite {

    public static void main(String[] args) {

        C objC = new C();

        objC.showA();

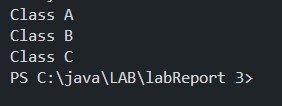
        objC.showB();

        objC.callShowC();

    }

}

Outputs:



**4. DISCUSSION**

To solve the problem of accessing multiple classes within a single class in Java, we utilize interfaces since multiple inheritance isn't supported. By declaring an interface and using the implements keyword, we achieve this functionality. Here, we define two interfaces, each containing a method, and then implement those methods in a third class by overriding them. In the main method, we create an object of the third class (class C) and access all the methods through this single object, demonstrating the concept of achieving multiple inheritance using interfaces in Java.