**Lab Report**

**Course Tittle:** Object Oriented Programming

**Course Code:** CSE 215

**Experiment No:** 05

**Experiment Name:** UML to JAVA code Implementation

**Submitted To:**

**Name:** Mst. Umme Ayman

**Designation:** Lecturer

**Department of CSE**

**Daffodil International University**

**Submitted By**

**Name:** Md Raduan Ahamed

**ID:** 0242220005101839

**Section:** 63\_O

**Department of CSE**

**Daffodil International University**

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**UML PROBLEM: 01**

package UML\_performance;

*// Define the shape interface*

public interface shape {  
 double calculatearea();  
}

*// Create a circle class that implements the shape interface*

public class circle implements shape {  
 double radious;

*//using constructor  
 // using this keyword*

public circle(double radious){  
 this.radious=radious;  
 }  
 public double calculatearea(){  
 return 3.1416\*radious\*radious;  
 }  
}

*// Create a rectangular class that implements the shape interface*

public class circle implements shape {  
  
public class rectangular implements shape {  
 double length;  
 double width;

*//using constructor  
 // using this keyword*

public rectangular(double length, double width){  
 this.length=length;  
 this.width=width;  
 }

*//declare the area number and implementation  
 //create a main method in this function*

public double calculatearea(){  
 return 0.5\*length\*width;  
 }

public static void main(String[] args) {

circle cir = new circle(9.0);  
 rectangular rec = new rectangular(9, 11);

System.*out*.println("The Area of circle: "+ cir.calculatearea());  
 System.*out*.println("The Area of rectangular: "+ rec.calculatearea());

}  
}

**OUTPUT :**

The Area of circle: 254.4696

The Area of rectangular: 49.5

**UML PROBLEM: 02**

package UML\_Perform;  
  
*// Define the shape interface*

public interface Person {  
 void display();  
  
}

*// Create a professor class that implements the person interface*

public class Professor implements Person {  
 String name;  
 int id;

*//using constructor  
 //using this keyword*

public Professor(String name, int id) {  
 this.id = id;  
 this.name = name;  
 }

*//including display function*

public void display() {  
 System.*out*.println("Professor name: " + name + "\nID: " + id);  
 }  
}

*//define the department class*

public class Department {  
 String deptname;  
 String address;

*//using constructor*

*//using this keyword*

public Department(String deptname, String address) {  
 this.deptname = deptname;  
 this.address = address;  
 }

*//define the display function*

public void display() {  
 System.*out*.println("Department name: " + deptname + "\nAddress: " + address);  
 }  
}

*//student implement person*

public class Student implements Person {  
 String name;  
 int id;  
 Department deptinfo;

*// using constructor  
 //using this keyword*

public Student(String name, int id, Department deptinfo) {  
 this.name = name;  
 this.id = id;  
 this.deptinfo = deptinfo;  
 }

*//define display methode*

public void display() {  
 System.*out*.println("Student's name: " + name + "\nStudent's Id: " + id);  
 deptinfo.display();  
 }

*//create a mian class and declare data of this*

public static void main(String[] args) {

Department dept = new Department("Computer Science", "Uttara, Rajuk Appartment");  
 Student std = new Student("Md Raduan Ahamed", 0242220005101839, dept);  
 Professor pro = new Professor("Dr. Jubaidul Alam Vuia", 5556120);  
  
 std.display();  
 pro.display();  
  
 }  
}

**Output:**

Student's name: Md Raduan Ahamed

Student's Id: 0242220005101839

Department name: Computer Science

Address: Utttara, Rajuk Appartment

Professor name: Dr. Jubaidul Alam Vuia

ID: 5556120