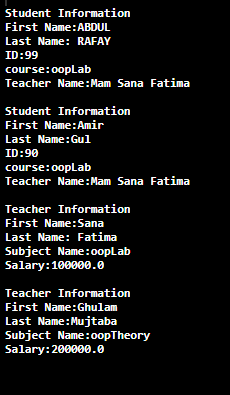
LAB 5 ASSIGNMENT

NAME:ABDUL RAFAY CMS ID:023-22-0356

Q1(CODE)

class Person  
{  
 String firstName;  
 String lastName;  
 Person(){}  
 Person(String firstName,String lastName)  
 {  
 this.firstName=firstName;  
 this.lastName=lastName;  
 }  
  
 void Pdisp()  
 {  
 System.out.println("First Name:"+firstName+"\nLast Name:"+lastName);  
 }  
}  
 class Student extends Person  
{  
 int ID;  
 String course;  
 String teacherName;  
 Student(){}  
 Student(String firstName,String lastName,int ID,String course,String teacherName)  
 {  
 super(firstName, lastName);  
 this.ID=ID;  
 this.course=course;  
 this.teacherName=teacherName;  
 }  
  
  
 void Stdisp()  
 {  
 System.out.println("\nStudent Information");  
 super.Pdisp();  
 System.out.println("ID:"+ID+"\ncourse:"+course+"\nTeacher Name:"+teacherName);  
 }  
}  
class Teacher extends Person  
{  
  
 String subName;  
 double salary;  
 Teacher(){}  
 Teacher(String firstName,String lastName,String subName,double salary)  
 {  
 super(firstName, lastName);  
  
 this.subName=subName;  
 this.salary=salary;  
 }  
  
 void Tdisp()  
 {  
 System.out.println("\nTeacher Information");  
 super.Pdisp();  
 System.out.println("Subject Name:"+subName+"\nSalary:"+salary);  
 }  
 public static void main(String args[])  
 {  
 Student s1=new Student("Ghulam"," Mustafa",99,"oopLab","Mam Sana Fatima");  
 Student s2=new Student("Amir","Gul",90,"oopLab","Mam Sana Fatima");  
 Teacher t1=new Teacher("Sana"," Fatima","oopLab",100000);  
 Teacher t2=new Teacher("Ghulam","Mujtaba","oopTheory",200000);  
 s1.Stdisp();  
 s2.Stdisp();  
 t1.Tdisp();  
 t2.Tdisp();  
 }  
}

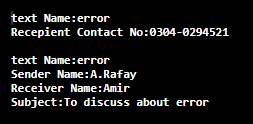
OUTPUT



Q2(CODE)

class Message  
{  
 String namedText;  
 public String toString()  
 {  
 return namedText;  
 }  
 Message(){}  
 Message(String namedText )  
 {  
 this.namedText=namedText;  
 }  
}  
class SMS extends Message  
{  
 String recipientContactNo;  
 public String toString()  
 {  
 return ("text Name:"+namedText+"\nRecepient Contact No:"+recipientContactNo);  
 }  
 SMS(){}  
 SMS(String namedText, String recipientContactNo )  
 {  
 super(namedText);  
 this.recipientContactNo=recipientContactNo;  
 }  
}  
class Email extends Message  
{  
 String sender;  
 String receiver;  
 String subject;  
 public String toString()  
 {  
 return ("\ntext Name:"+namedText+"\nSender Name:"+sender+"\nReceiver Name:"+receiver+"\nSubject:"+subject);  
 }  
 Email(){}  
 Email(String namedText, String sender,String receiver,String subject )  
 {  
 super(namedText);  
 this.sender=sender;  
 this.receiver=receiver;  
 this.subject=subject;  
 }  
 public static void main(String args[])  
 {  
 SMS s1=new SMS("java","0303-0395451");  
 System.out.println(s1.toString());  
 Email e1=new Email("Java","GM","Amir","To discuss about java");  
 System.out.println(e1.toString());  
 }  
}

OUTPUT



Q3 (CODE)

class Shape  
{  
 String color;  
 Shape(){}  
 Shape(String color)  
 {  
 this.color=color;  
 }  
 double getArea()  
 {  
 return 0;  
 }  
  
}  
 class Circle extends Shape  
 {  
 double reduis;  
 Circle(){}  
 Circle(String color,double reduis)  
 {  
 super(color);  
 this.reduis=reduis;  
 }  
 double getArea()  
 {  
 return (3.14\*reduis\*reduis);  
 }  
  
 }  
 class Rectangle extends Shape  
 {  
 double width;  
 double height;  
 Rectangle(){}  
 Rectangle(String color,double width,double height)  
 {  
 super(color);  
 this.width=width;  
 this.height=height;  
 }  
 double getArea()  
 {  
 return (width\*height);  
 }  
 public static void main(String args[])  
 {  
 Circle c1=new Circle("Blue",3.6);  
 System.out.println("Area of Circle="+Math.round(c1.getArea()\*100.0)/100.0);  
 Rectangle r1=new Rectangle("Blue",3.6,2.4);  
 System.out.println("Area of Rectangle="+Math.round(r1.getArea()\*100.0)/100.0);  
  
 }  
 }

OUTPUT



POST LAB QUESTION

Q1

ANS: A class can extend only one class, but implement many interfaces. An interface can extend another interface, in a similar way as a class can extend another class.

Q2

ANS: Yes we can restrict to any class for inheritance by giving a final keyword at the starting of class keyward.

Q3

ANS: To String method is use to return any String from the variable.