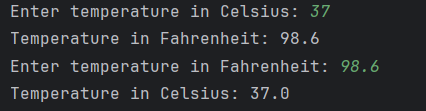
**Q1**

**CODE:**

package Q1;  
  
import java.util.\*;  
  
class Temperature {  
 private double celsius;  
  
 public Temperature() {  
 this.celsius = 0.0;  
 }  
  
 public Temperature(double celsius) {  
 this.celsius = celsius;  
 }  
  
 public double toFahrenheit() {  
 return celsius \* 9.0 / 5.0 + 32.0;  
 }  
  
 public double toCelsius() {  
 return celsius;  
 }  
  
 public void setFahrenheit(double fahrenheit) {  
 this.celsius = (fahrenheit - 32.0) \* 5.0 / 9.0;  
 }  
  
 public void setCelsius(double celsius) {  
 this.celsius = celsius;  
 }  
}  
  
public class TemperatureConverter {  
  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
 // Part 1: Celsius to Fahrenheit  
 System.*out*.print("Enter temperature in Celsius: ");  
 double celsiusInput = scanner.nextDouble();  
  
 Temperature tempCelsius = new Temperature(celsiusInput);  
 double fahrenheitOutput = tempCelsius.toFahrenheit();  
  
 System.*out*.println("Temperature in Fahrenheit: " + fahrenheitOutput);  
  
 // Part 2: Fahrenheit to Celsius  
 System.*out*.print("Enter temperature in Fahrenheit: ");  
 double fahrenheitInput = scanner.nextDouble();  
  
 Temperature tempFahrenheit = new Temperature();  
 tempFahrenheit.setFahrenheit(fahrenheitInput);  
 double celsiusOutput = tempFahrenheit.toCelsius();  
  
 System.*out*.println("Temperature in Celsius: " + celsiusOutput);  
  
 }  
}

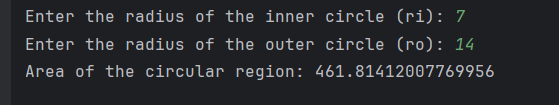


**Q3**

**CODE:**

package Q3;  
  
import java.util.\*;  
  
class Circle {  
 private double radius;  
  
 public Circle() {  
 this.radius = 0.0;  
 }  
  
 public Circle(double radius) {  
 this.radius = radius;  
 }  
  
 public void setRadius(double radius) {  
 this.radius = radius;  
 }  
  
 public double computeArea() {  
 return Math.*PI* \* radius \* radius;  
 }  
  
 public double computeCircumference() {  
 return 2 \* Math.*PI* \* radius;  
 }  
}

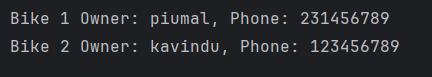
public class CircularArea {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
  
 System.*out*.print("Enter the radius of the inner circle (ri): ");  
 double ri = scanner.nextDouble();  
  
 System.*out*.print("Enter the radius of the outer circle (ro): ");  
 double ro = scanner.nextDouble();  
  
 Circle innerCircle = new Circle(ri);  
 Circle outerCircle = new Circle(ro);  
  
 double innerArea = innerCircle.computeArea();  
 double outerArea = outerCircle.computeArea();  
  
 double circularRegionArea = outerArea - innerArea;  
  
 System.*out*.println("Area of the circular region: " + circularRegionArea);  
  
   
 }  
}

****

**Q4**

**CODE:**

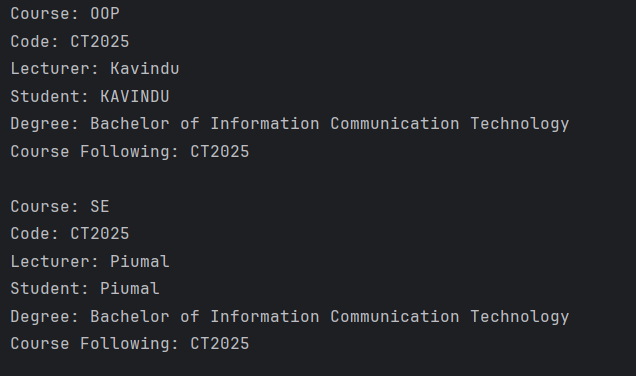
package Q4;  
  
class Owner {  
 private String ownerName;  
 private String phoneNo;  
  
 public Owner() {  
 this.ownerName = "Unknown";  
 this.phoneNo = "Unknown";  
 }  
  
 public Owner(String name, String num) {  
 this.ownerName = name;  
 this.phoneNo = num;  
 }  
  
 public String getOwnerName() {  
 return ownerName;  
 }  
  
 public void setOwnerName(String name) {  
 this.ownerName = name;  
 }  
  
 public String getPhoneNo() {  
 return phoneNo;  
 }  
  
 public void setPhoneNo(String num) {  
 this.phoneNo = num;  
 }  
}  
  
class Bicycle {  
 // Data Member  
 private Owner owner;  
  
 // Constructor: Initializes the data member  
 public Bicycle() {  
 owner = new Owner(); // Default Owner object  
 }  
  
 public Bicycle(Owner owner) {  
 this.owner = owner;  
 }  
  
 // Returns the Owner object  
 public Owner getOwner() {  
 return owner;  
 }  
  
 // Assigns the Owner object  
 public void setOwner(Owner owner) {  
 this.owner = owner;  
 }  
}  
  
public class BicycleOwner {  
 public static void main(String[] args) {  
 Owner owner1 = new Owner("piumal", "231456789");  
 Bicycle bike1 = new Bicycle(owner1);  
  
 Owner owner2 = new Owner();  
 owner2.setOwnerName("kavindu");  
 owner2.setPhoneNo("123456789");  
 Bicycle bike2 = new Bicycle();  
 bike2.setOwner(owner2);  
  
 System.*out*.println("Bike 1 Owner: " + bike1.getOwner().getOwnerName() + ", Phone: " + bike1.getOwner().getPhoneNo());  
 System.*out*.println("Bike 2 Owner: " + bike2.getOwner().getOwnerName() + ", Phone: " + bike2.getOwner().getPhoneNo());  
 }  
}

****

**Q5**

**CODE:**

package Q5;  
  
class Lecturer {  
 private String lecturerName;  
 private String courseTeaching;  
  
 public Lecturer(String lecturerName, String courseTeaching) {  
 this.lecturerName = lecturerName;  
 this.courseTeaching = courseTeaching;  
 }  
  
 public String getLecturerName() {  
 return lecturerName;  
 }  
  
 public void setLecturerName(String lecturerName) {  
 this.lecturerName = lecturerName;  
 }  
  
 public String getCourseTeaching() {  
 return courseTeaching;  
 }  
  
 public void setCourseTeaching(String courseTeaching) {  
 this.courseTeaching = courseTeaching;  
 }  
}  
  
class Course {  
 private String courseName;  
 private String courseCode;  
 private Lecturer lecturer;  
  
 public Course(String courseName, String courseCode, Lecturer lecturer) {  
 this.courseName = courseName;  
 this.courseCode = courseCode;  
 this.lecturer = lecturer;  
 }  
  
 public String getCourseName() {  
 return courseName;  
 }  
  
 public void setCourseName(String courseName) {  
 this.courseName = courseName;  
 }  
  
 public String getCourseCode() {  
 return courseCode;  
 }  
  
 public void setCourseCode(String courseCode) {  
 this.courseCode = courseCode;  
 }  
  
 public Lecturer getLecturer() {  
 return lecturer;  
 }  
  
 public void setLecturer(Lecturer lecturer) {  
 this.lecturer = lecturer;  
 }  
}  
  
class Student {  
 private String studentName;  
 private String degreeName;  
 private String courseFollowing;  
  
 public Student(String studentName, String degreeName, String courseFollowing) {  
 this.studentName = studentName;  
 this.degreeName = degreeName;  
 this.courseFollowing = courseFollowing;  
 }  
  
 public String getStudentName() {  
 return studentName;  
 }  
  
 public void setStudentName(String studentName) {  
 this.studentName = studentName;  
 }  
  
 public String getDegreeName() {  
 return degreeName;  
 }  
  
 public void setDegreeName(String degreeName) {  
 this.degreeName = degreeName;  
 }  
  
 public String getCourseFollowing() {  
 return courseFollowing;  
 }  
  
 public void setCourseFollowing(String courseFollowing) {  
 this.courseFollowing = courseFollowing;  
 }  
}  
  
public class Main {  
 public static void main(String[] args) {  
 // Create Lecturer objects  
 Lecturer lecturer1 = new Lecturer("Kavindu", "Computer Science ");  
 Lecturer lecturer2 = new Lecturer("Piumal", "Mathematics ");  
  
 // Create Course objects  
 Course course1 = new Course("OOP", "CT2025", lecturer1);  
 Course course2 = new Course("SE", "CT2025", lecturer2);  
  
 // Create Student objects  
 Student student1 = new Student("KAVINDU", "Bachelor of Information Communication Technology", "CT2025");  
 Student student2 = new Student("Piumal", "Bachelor of Information Communication Technology", "CT2025");  
  
 // Display information  
 System.*out*.println("Course: " + course1.getCourseName());  
 System.*out*.println("Code: " + course1.getCourseCode());  
 System.*out*.println("Lecturer: " + course1.getLecturer().getLecturerName());  
 System.*out*.println("Student: " + student1.getStudentName());  
 System.*out*.println("Degree: " + student1.getDegreeName());  
 System.*out*.println("Course Following: " + student1.getCourseFollowing());  
 System.*out*.println();  
  
 System.*out*.println("Course: " + course2.getCourseName());  
 System.*out*.println("Code: " + course2.getCourseCode());  
 System.*out*.println("Lecturer: " + course2.getLecturer().getLecturerName());  
 System.*out*.println("Student: " + student2.getStudentName());  
 System.*out*.println("Degree: " + student2.getDegreeName());  
 System.*out*.println("Course Following: " + student2.getCourseFollowing());  
 }  
}

****