Q1.

Code:

```java
package Q_01;

public class Temperature {
  private double celsius;

  public Temperature(){
    this.celsius=0;
  }
  public Temperature(double celsius){
    this.celsius=celsius;
  }

  public double toCelsius() {
    return celsius;
  }
  public double toFahrenheit(){
    return (celsius * ((double)9 / 5) + 32);
  }
  public void setCelsius(double celsius) {
    this.celsius = celsius;
  }
  public void setFahrenheit(double fahrenheit){
    this.celsius = (fahrenheit - 32) * ((double)5 / 9);
  }
}
import java.util.Scanner;
public class Main {
  public static void main(String[] args) {
    Scanner scan=new Scanner(System.in);
    System.out.println("Enter the temperature in celsius:");
    double celsius= scan.nextDouble();

    Temperature temp=new Temperature();
    temp.setCelsius(celsius);
    System.out.println("Temperature in fahrenheit:"+temp.toFahrenheit());}}
```

Output;

```
Enter the temperature in celsius:
100
Temperature in fahrenheit:212.0

Process finished with exit code 0
```

Q2.

Code:

```
System.out.println("Enter the temperature in fahrenheit:");
double fahrenheit= scan.nextDouble();
Temperature temp1=new Temperature();
temp1.setFahrenheit(fahrenheit);
System.out.println("Temperature in celsius:"+temp1.toCelsius());
```

Output:

```
Enter the temperature in celsius:
100
Temperature in fahrenheit:212.0
Enter the temperature in fahrenheit:
212
Temperature in celsius:100.0

Process finished with exit code 0
```

Q3.

Code:

```java
package Q_03;
public class Circle {
    private double radius;

    public Circle() {
        this.radius=0;
    }

    public Circle(double radius) {
        this.radius = radius;
    }
    public double getRadius() {
        return 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);
    }
}

import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner scan=new Scanner(System.in);
        System.out.println("Enter the Outer radius:");
        double outerRadius=scan.nextDouble();

        System.out.println("Enter the Inner radius:");
        double innerRadius=scan.nextDouble();

        Circle outerCircle=new Circle(outerRadius);
        Circle innerCircle=new Circle(innerRadius);

        double area=outerCircle.computeArea()-innerCircle.computeArea();
        System.out.println("Area is:"+area);}}
```

Output:

```
Enter the Outer radius:
14
Enter the Inner radius:
7
Area is:461.81412007769956

Process finished with exit code 0
```

Q4.

Code:

```java
package Q_04;

public class Owner {
    private String ownerName;
    private String phoneNo;


    public Owner(String name,String num) {
        this.ownerName = name;
        this.phoneNo = num;
    }
    public String getOwnerName() {
        return ownerName;
    }
    public void setOwnerName(String name) {
        ownerName = name;
    }
    public String getPhoneNo() {
        return phoneNo;
    }
    public void setPhoneNo(String num) {
        phoneNo = num;


    }
}
```

```java
package Q_04;

public class BicycleNew {


    Owner bicycleOwner;
    public BicycleNew(Owner bicycleOwner ) {
        this.bicycleOwner = bicycleOwner;
    }

    public Owner getBicycleOwner() {
        return bicycleOwner;
    }

    public void setBicycleOwner(Owner bicycleOwner) {
        this.bicycleOwner = bicycleOwner;
    }

}
```

```java
package Q_04;
public class Main {
    public static void main(String[] args) {
        Owner sandeepa = new Owner("Sandeepa", "0771234567");
        BicycleNew tomahawk = new BicycleNew(sandeepa);
        System.out.println("Owner Name:" +
tomahawk.getBicycleOwner().getOwnerName());
        System.out.println("Owner Phone No:" +
tomahawk.getBicycleOwner().getPhoneNo());
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-21\bin\java.exe
Owner Name:Sandeepa
Owner Phone No:0771234567

Process finished with exit code 0
```

Q5.

Code:

```java
package Q_05;
public class Course {
  private String courseName,courseCode;
  private Lecturer lecture;

  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 getLecture() {
    return lecture;
  }

  public void setLecture(Lecturer lecture) {
    this.lecture = lecture;
  }
}
```

```java
package Q_05;

public class Lecturer {
    private String lecturerName;
    private String 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;
    }
}
```

```java
package Q_05;

public class Student{
    private String studentName;
    private String degreeName;
    private String courseFollowing;

    public String getStudentName() {
        return studentName;
    }

    public void setStudentName(String studentName) {
        this.studentName = studentName;
    }

    public String getDegreeName() {
        return degreeName;
```

```java
    }

    public void setDegreeName(String degreeName) {
        this.degreeName = degreeName;
    }

    public String getCourseFollowing() {
        return courseFollowing;
    }

    public void setCourseFollowing(String courseFollowing) {
        this.courseFollowing = courseFollowing;
    }
}
```

```java
package Q_05;
public class Main {
    public static void main(String[] args) {
        Course course=new Course();
        Lecturer lecturer=new Lecturer();
        Student student=new Student();

        course.setCourseName("OOP");
        course.setCourseCode("CTEC-22043");

        lecturer.setLecturerName("Mr.Silva");
        lecturer.setCourseTeaching("OOP");

        student.setStudentName("Sandeepa");
        student.setDegreeName("Information and Communication
Technology");
        student.setCourseFollowing("OOP");

        System.out.println(course.getCourseName()+"
"+course.getCourseCode());
        System.out.println(lecturer.getLecturerName()+"
"+lecturer.getCourseTeaching());
        System.out.println(student.getStudentName()+"
"+student.getDegreeName()+" "+student.getCourseFollowing());}}
```

Output:

```
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Program
OOP CTEC-22043
Mr.Silva OOP
Sandeepa Information and Communication Technology OOP

Process finished with exit code 0
```