Assignment No: 01

Code:

abstract class Shape {

    abstract double calculateArea();

}

class Circle extends Shape {

    double radius;

    Circle(double radius) {

        this.radius = radius;

    }

    @Override

    double calculateArea() {

        return 3.14159 \* radius \* radius;

    }

}

class Rectangle extends Shape {

    double length;

    double width;

    Rectangle(double length, double width) {

        this.length = length;

        this.width = width;

    }

    @Override

    double calculateArea() {

        return length \* width;

    }

}

public class calarea {

    public static void main(String[] args) {

        Circle circle = new Circle(5);

        Rectangle rectangle = new Rectangle(4, 6);

        System.out.printf("Area of the Circle: %.2f\n", circle.calculateArea());

        System.out.printf("Area of the Rectangle: %.2f\n", rectangle.calculateArea());

    }

}

Output:



Assignment No: 02

Code:

import java.util.Scanner;

class Animal {

    void makeSound() {

        System.out.println("The animal makes a sound.");

    }

}

class Dog extends Animal {

    @Override

    void makeSound() {

        System.out.println("The dog barks.");

    }

}

class Cat extends Dog {

    @Override

    void makeSound() {

        System.out.println("The cat meows.");

    }

}

public class methodovrr {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        int choice;

        do {

            System.out.println("\nChoose an animal:");

            System.out.println("1. Animal");

            System.out.println("2. Dog");

            System.out.println("3. Cat");

            System.out.println("0. Exit");

            System.out.print("Enter your choice: ");

            choice = scanner.nextInt();

            Animal animal;

            switch (choice) {

                case 1:

                    animal = new Animal();

                    animal.makeSound();

                    break;

                case 2:

                    animal = new Dog();

                    animal.makeSound();

                    break;

                case 3:

                    animal = new Cat();

                    animal.makeSound();

                    break;

                case 0:

                    System.out.println("Exiting program.");

                    break;

                default:

                    System.out.println("Invalid choice. Try again.");

            }

        } while (choice != 0);

        scanner.close();

    }

}

Output:

