**Assignment No- 2**

5) Write a program that allows the user to select a shape (Circle, Square, Rectangle, Triangle) and then calculates the area based on user-provided dimensions using a switch case.

import java.util.Scanner;

public class AreaOfShape {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Select a shape to calculate the area:");

System.out.print("Enter your choice (1-4): ");

int choice = scanner.nextInt();

double area = 0;

switch (choice) {

case 1:

System.out.print("Enter the radius of the circle: ");

double radius = scanner.nextDouble();

area = Math.PI \* radius \* radius;

break;

case 2:

System.out.print("Enter the side length of the square: ");

double side = scanner.nextDouble();

area = side \* side;

break;

case 3:

System.out.print("Enter the length of the rectangle: ");

double length = scanner.nextDouble();

System.out.print("Enter the width of the rectangle: ");

double width = scanner.nextDouble();

area = length \* width;

break;

case 4:

System.out.print("Enter the base of the triangle: ");

double base = scanner.nextDouble();

System.out.print("Enter the height of the triangle: ");

double height = scanner.nextDouble();

area = 0.5 \* base \* height;

break;

default:

System.out.println("Invalid choice! Please select a valid shape.");

scanner.close();

return;

}

System.out.printf("The area of the selected shape is: %.2f%n", area);

scanner.close();

}

}

