Objective:

Use functions to create reusable code blocks.

Problem 1: Creating a Function for Circle Area Calculation

Problem Statement

Write a function to calculate the area of a circle. The function should accept one input parameter: the radius of the circle. The program should prompt the user for this value, use the function to compute the area, and then display the result.

Formula: The area of a circle is given by **π * r^2** where r is the radius of the circle. For Pi you will use the code **Math.PI**.

Problem 2: Creating a Function for Trapezoid Area Calculation

Problem Statement

Write a function to calculate the area of a trapezoid. The function should accept three input parameters: the length of the two parallel sides (**a** and **b**) and the height. The program should prompt the user for these values, use the function to compute the area, and then display the result.

Formula: The area of a trapezoid is given by **(a + b) / 2 * height**.

Code:

```
public class Program
{
    // Function to calculate the area of a circle
    static double CalculateCircleArea(double radius)
    {
        return Math.PI * radius * radius;
    }

    // Function to calculate the area of a trapezoid
    static double CalculateTrapezoidArea(double a, double b, double
height)
    {
        return (a + b) / 2 * height;
    }

    public static void Main()
    {
        // PROBLEM 1: Circle Area
        Console.Write("Enter the radius of the circle: ");
```

```
        double radius = Convert.ToDouble(Console.ReadLine());
        double circleArea = CalculateCircleArea(radius);
        Console.WriteLine($"The area of the circle with radius {radius}
is {circleArea:F2}");

        // PROBLEM 2: Trapezoid Area
        Console.Write("\nEnter the length of side a of the trapezoid:
");
        double a = Convert.ToDouble(Console.ReadLine());
        Console.Write("Enter the length of side b of the trapezoid: ");
        double b = Convert.ToDouble(Console.ReadLine());
        Console.Write("Enter the height of the trapezoid: ");
        double height = Convert.ToDouble(Console.ReadLine());
        double trapezoidArea = CalculateTrapezoidArea(a, b, height);
        Console.WriteLine($"The area of the trapezoid is
{trapezoidArea:F2}");
    }
}
```