**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}");

}

}