Imports System

Module AreaCalculator

Sub Main()

Dim choice As Integer

Do

Console.WriteLine("Choose a shape to calculate area:")

Console.WriteLine("1. Rectangle")

Console.WriteLine("2. Trapezoid")

Console.WriteLine("3. Ellipse")

Console.WriteLine("4. Exit")

Console.Write("Enter your choice: ")

choice = Convert.ToInt32(Console.ReadLine())

Select Case choice

Case 1

CalculateRectangleArea()

Case 2

CalculateTrapezoidArea()

Case 3

CalculateEllipseArea()

Case 4

Console.WriteLine("Exiting program...")

Case Else

Console.WriteLine("Invalid choice, please select again.")

End Select

Console.WriteLine()

Loop While choice <> 4

End Sub

Sub CalculateRectangleArea()

Console.Write("Enter the length of the rectangle: ")

Dim length As Double = Convert.ToDouble(Console.ReadLine())

Console.Write("Enter the width of the rectangle: ")

Dim width As Double = Convert.ToDouble(Console.ReadLine())

Dim area As Double = length \* width

Console.WriteLine("The area of the rectangle is: " & area)

End Sub

Sub CalculateTrapezoidArea()

Console.Write("Enter the base1 of the trapezoid: ")

Dim base1 As Double = Convert.ToDouble(Console.ReadLine())

Console.Write("Enter the base2 of the trapezoid: ")

Dim base2 As Double = Convert.ToDouble(Console.ReadLine())

Console.Write("Enter the height of the trapezoid: ")

Dim height As Double = Convert.ToDouble(Console.ReadLine())

Dim area As Double = 0.5 \* (base1 + base2) \* height

Console.WriteLine("The area of the trapezoid is: " & area)

End Sub

Sub CalculateEllipseArea()

Console.Write("Enter the major radius (a) of the ellipse: ")

Dim a As Double = Convert.ToDouble(Console.ReadLine())

Console.Write("Enter the minor radius (b) of the ellipse: ")

Dim b As Double = Convert.ToDouble(Console.ReadLine())

Dim area As Double = Math.PI \* a \* b

Console.WriteLine("The area of the ellipse is: " & area)

End Sub

End Module