**Лабораторна робота 2**

**Минко Ярослав**

1.   
using System;

public class Rectangle

{

private double side1;

private double side2;

public Rectangle(double side1, double side2)

{

this.side1 = side1;

this.side2 = side2;

}

public double CalculateArea()

{

return side1 \* side2;

}

public double CalculatePerimeter()

{

return 2 \* (side1 + side2);

}

public double Area

{

get { return CalculateArea(); }

}

public double Perimeter

{

get { return CalculatePerimeter(); }

}

}

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Минко Ярослав");

Console.Write("Введіть довжину першої сторони прямокутника: ");

double side1 = double.Parse(Console.ReadLine());

Console.Write("Введіть довжину другої сторони прямокутника: ");

double side2 = double.Parse(Console.ReadLine());

Rectangle rectangle = new Rectangle(side1, side2);

Console.WriteLine($"Площа прямокутника: {rectangle.Area}");

Console.WriteLine($"Периметр прямокутника: {rectangle.Perimeter}");

}

}

2.  
using System;

public class Point

{

private double x;

private double y;

private string name;

public Point(double x, double y, string name)

{

this.x = x;

this.y = y;

this.name = name;

}

public double X

{

get { return x; }

}

public double Y

{

get { return y; }

}

public string Name

{

get { return name; }

}

}

public class Figure

{

private Point[] points;

public Figure(Point point1, Point point2, Point point3)

{

points = new Point[] { point1, point2, point3 };

}

public Figure(Point point1, Point point2, Point point3, Point point4)

{

points = new Point[] { point1, point2, point3, point4 };

}

public Figure(Point point1, Point point2, Point point3, Point point4, Point point5)

{

points = new Point[] { point1, point2, point3, point4, point5 };

}

public double GetSideLength(Point A, Point B)

{

return Math.Sqrt(Math.Pow(B.X - A.X, 2) + Math.Pow(B.Y - A.Y, 2));

}

public void CalculatePerimeter()

{

double perimeter = 0;

for (int i = 0; i < points.Length - 1; i++)

{

perimeter += GetSideLength(points[i], points[i + 1]);

}

perimeter += GetSideLength(points[points.Length - 1], points[0]);

Console.WriteLine("Минко Ярослав");

Console.WriteLine($"Периметр багатокутника: {perimeter}");

}

}

class Program

{

static void Main(string[] args)

{

Point A = new Point(0, 2, "A");

Point B = new Point(5, 6, "B");

Point C = new Point(2, 0, "C");

Point D = new Point(3, 1, "D");

Figure rectangle = new Figure(A, B, C, D);

rectangle.CalculatePerimeter();

}

}