PRU211M Assignment 1

Group 6

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PRESENT 5 STEPS IN THE PROCESS OF SOLVING A PROBLEM.

1. UNDERSTAND THE PROBLEM AND ENVISION THE REQUIRED TASKS
2. DESIGN THE SOLUTION.
3. WRITE TEST CASES.
4. IMPLEMENT THE SOLUTION.
5. **PERFORM TESTING ON THE IMPLEMENTED PROGRAM.**

PROBLEM PERFORMANCE RESULTS

```
5 5 4 4
1.414214 -135

2 2 4 4
2.828427 45

0 0 1 0
1 0

0 0 0 1
1 90

0 0 -1 0
1 180.00002

0 0 0 -1
1 -90

2 2 -4 4
6.324555 161.56505

2 2 4 -4
6.324555 -71.56505

6 5 4 3
2.828427 -135

3 4 5 6
2.828427 45
```

```
static void Main(string[] args)
{
    try
    {
        // loop while there's more input
        string input = Console.ReadLine();
        while (input[0] != 'q')
        {
            // extract point coordinates from string
            GetInputValuesFromString(input);

            // Add your code between this comment
            // and the comment below. You can of
            // course add more space between the
            // comments as needed

            // Calculate Distance between 2 point
            // deltaX = point2X - point1X
            // deltaY = point2Y - point1Y
            float distance = (float)Math.Sqrt((Math.Pow(point2X - point1X, 2) + Math.Pow(point2Y - point1Y, 2)));

            // Calculate the angle by radian using tan
            double angle = (float)Math.Atan2(point2Y - point1Y, point2X - point1X);

            // Convert from radian to degree
            angle *= (float)180 / Math.PI;

            Console.WriteLine((float)Math.Round(distance, 6) + " " + (float)Math.Round(angle, 5));

            Console.WriteLine();

            // Don't add or modify any code below
            // this comment
            input = Console.ReadLine();
        }
    }
    catch (Exception)
    {
        Console.WriteLine("Press enter ... ");
    }

}
```

RESULT EVALUATION

The program seems to be functioning correctly and provides the expected output.

It calculates the distance between two points using the Euclidean distance formula.

It calculates the angle between the two points using the Atan2 method.

The angle is converted from radians to degrees

NEXT DEVELOPMENT

Enhance the user experience by providing clear instructions for input and adding error messages for incorrect input formats

Expand the program's functionality by adding more calculations related to points.

THANK YOU!