12214994_SaurabhRana

Title

Square and Sort Integer List

Question No : 1 / 1

Problem Statement

You need to develop a program in **C#** that squares each element in a dynamically input list of integers and then sorts the squared values in **ascending order**.
The program should be written within the **Program** class in the **Program.cs** file.

If the input contains any non-integer value or is in an invalid format, the program should display **`Invalid input`**.

All the classes must be in public

Your program should

1. Allow the user to input a list of integers dynamically (space-separated).
2. Square each integer in the list.
3. Sort the squared values in ascending order.
4. Display the sorted list of squared values.
5. Display **`Invalid input`** if the input format is incorrect.

Example

- If the input list is
- `3 -2 0 5 1`

The output should be

```
0 1 4 9 25
```

- If the input contains non-integer values, display
- `Invalid input`

Class and Methods

Class: Program

The main class that contains the entry point of the application and methods to handle input, processing, and output.

Main Method

```
public static void Main(string[] args)
```

Responsibilities:

- Reads a line of input from the console.
- Converts the input into a list of integers.
- Validates the input.
- Squares each integer.
- Sorts the squared values.
- Displays the result or error message.

Input Format

- A single line containing **space-separated integers**.

Output Format

- A single line containing the **sorted list of squared values in ascending order**, separated by spaces.
- If input is invalid, output:
- `Invalid input`

Sample Input 1

```
3 -2 1 6 0 -8 6
```

Sample Output 1

```
0 1 4 9 36 36 64
```

Sample Input 2

```
-4 2 q 1 a 9 0 -7
```

Sample Output 2

```
Invalid input
```

Test Cases

Test Case 1

Input

```
1 2 3 4
```

Expected Output

```
1 4 9 16
```

Test Case 2

Input

```
-5 -3 -1
```

Expected Output

```
1 9 25
```

Test Case 3

Input

```
0 0 0
```

Expected Output

```
0 0 0
```

Test Case 4

Input

```
2 a 4
```

Expected Output

```
Invalid input
```

Test Case 5

Input

```
10
```

Expected Output

```
100
```

Commands to Run the Project

```
cd dotnetapp
dotnet run
dotnet build
dotnet clean
```

Note

- Sorting must be done in **ascending order**.
- Negative numbers should be squared correctly.
- Input validation is mandatory.
- The program should terminate after displaying the result.

C# Solution – Square Elements and Sort (Ascending)

```
using System;
using System.Linq;


public class Program
{
   public static void Main(string[] args)
   {
      try
      {
         string input = Console.ReadLine() ?? "";


         string[] parts = input.Split(' ', StringSplitOptions.RemoveEmptyEntries);
         int[] numbers = parts.Select(p => int.Parse(p)).ToArray();
         var result = numbers
            .Select(n => n * n)
            .OrderBy(n => n)
            .ToArray();


         Console.WriteLine(string.Join(" ", result));
      }
      catch
      {
```

```
            Console.WriteLine("Invalid input");
        }
    }
}
```