

Lab 2-3



Name:

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Reg No:

FA22-BCS-090

Subject:

Compiler Construction

Submitted to:

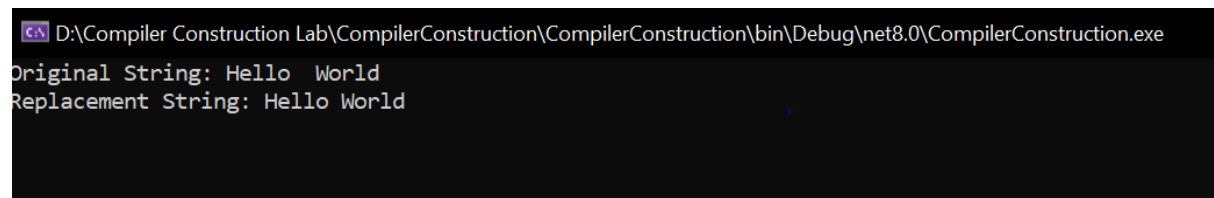
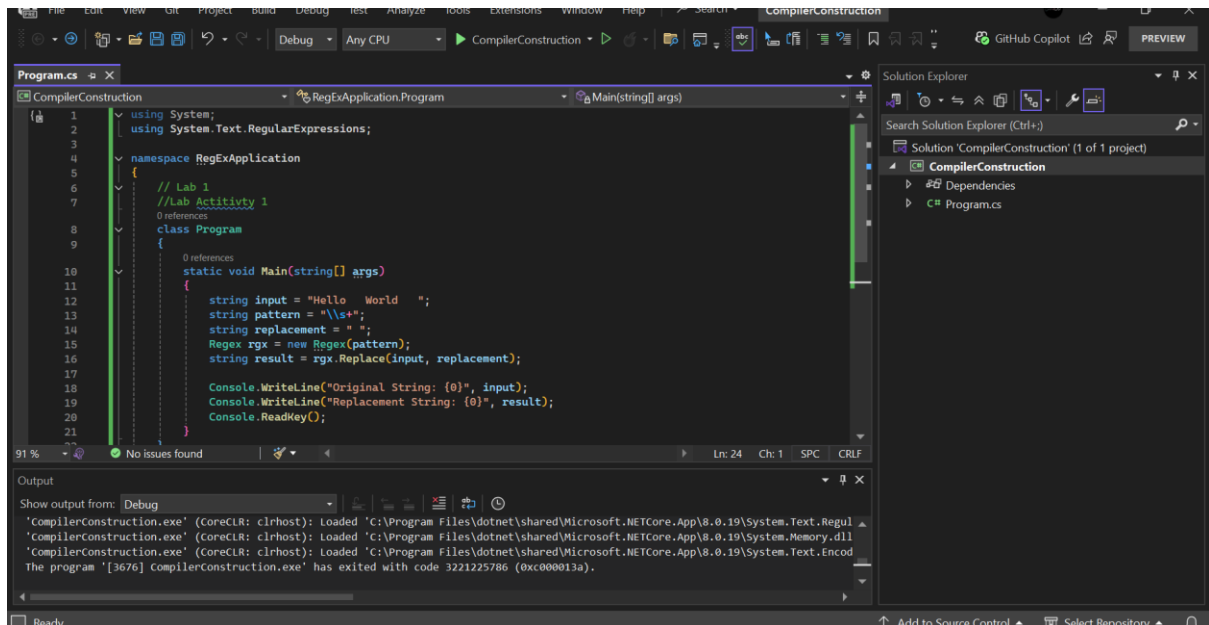
Mr. Nasir Mehdi

Compiler Construction

Lab 2

Lab Activity 1:

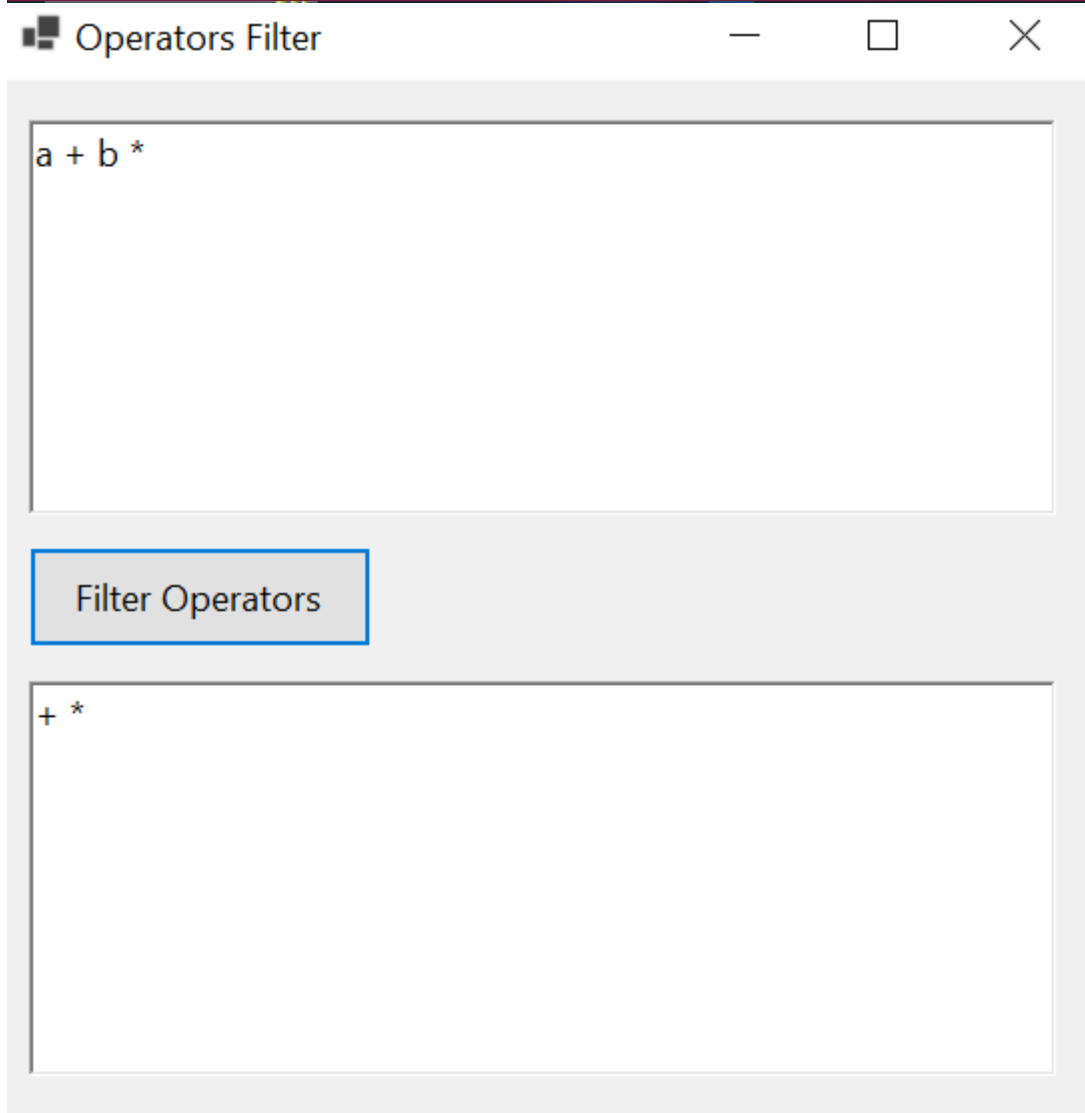
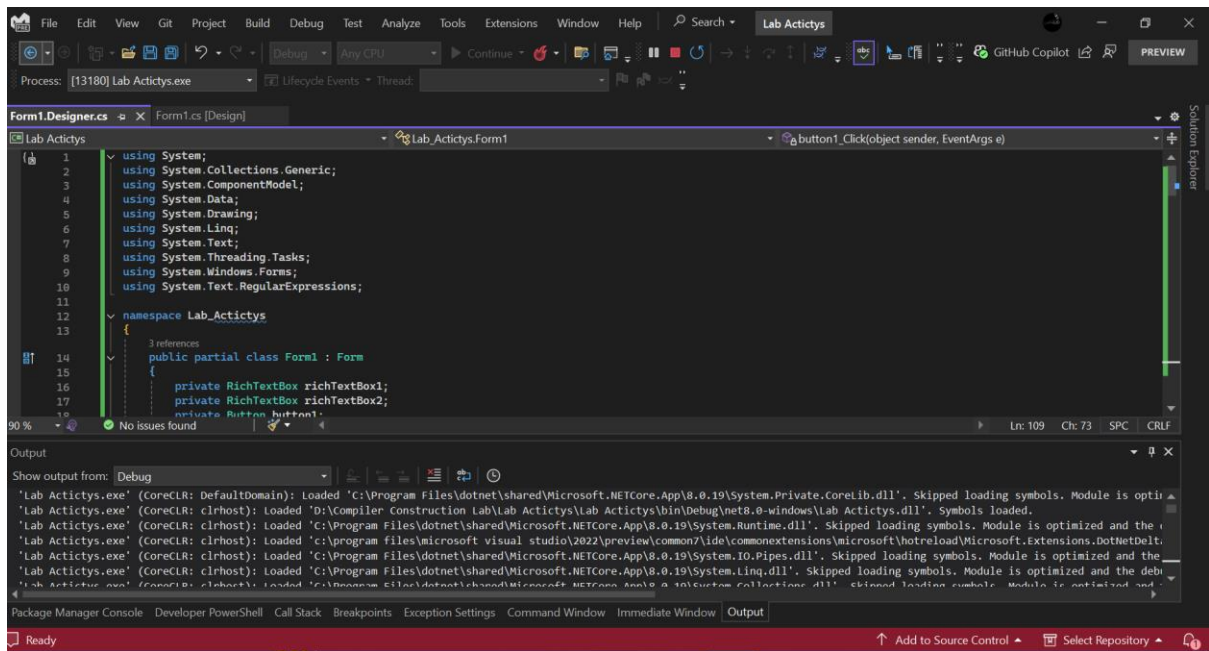
This activity demonstrates the removal of extra white spaces:



Lab Activity 2:

Design regular expression for arithmetic operators: Regular Expression for operators:

[+|*|/|-]

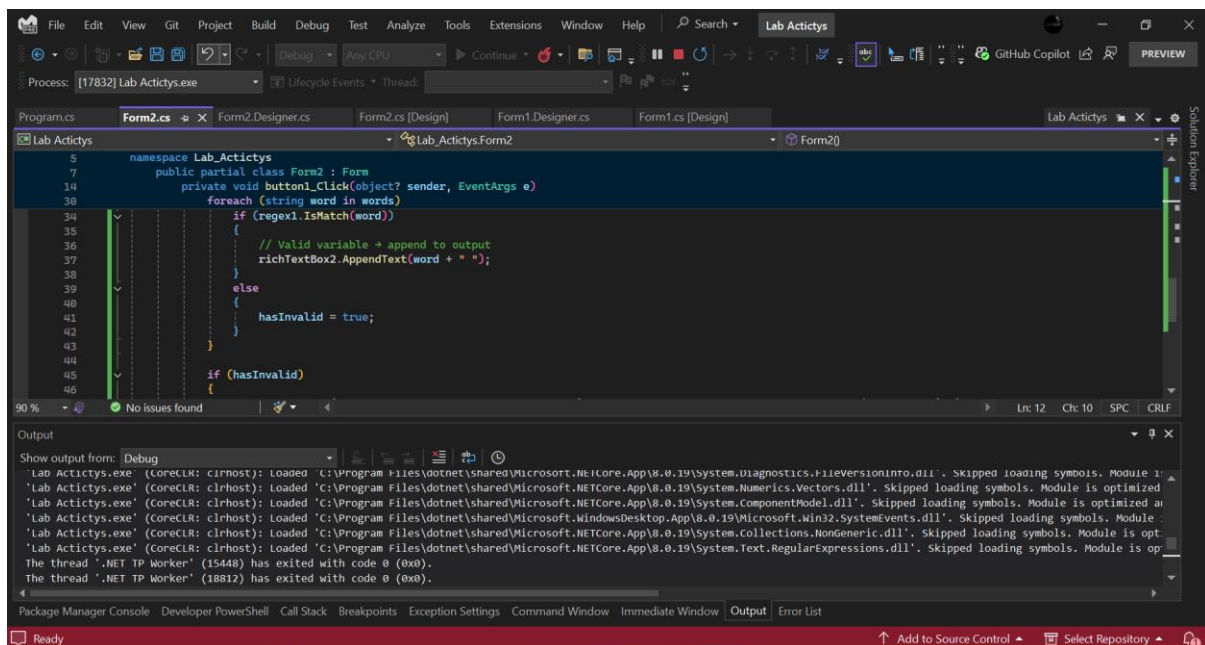


Activity 3:

Any meta character with special meaning may be quoted by preceding it with a backslash. In basic regular expressions the metacharacters "?", "+", "{", "|", "(", and ")" lose their special meaning; instead use the backslashed versions "\?", "\+", "\{", "\|", "\(", and "\)".

Regular Expression for variables is: `[A-Za-z]([A-Za-z|0-9])`*

Design a regular expression for variables that should start with a letter, have a length not greater than 10 and can contain combination of digits and letters afterwards.



```
5 namespace Lab_Actictys
7 public partial class Form2 : Form
14 private void button1_Click(object sender, EventArgs e)
30     foreach (string word in words)
34         if (regex1.IsMatch(word))
35         {
36             // Valid variable -> append to output
37             richTextBox2.AppendText(word + " ");
38         }
39         else
40         {
41             hasInvalid = true;
42         }
43     }
44     if (hasInvalid)
45     {
46     }
```

Output

Show output from: Debug

'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Diagnostics.FileVersionInfo.dll'. Skipped loading symbols. Module is optimized for performance.

'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Numerics.Vectors.dll'. Skipped loading symbols. Module is optimized for performance.

'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.ComponentModel.dll'. Skipped loading symbols. Module is optimized for performance.

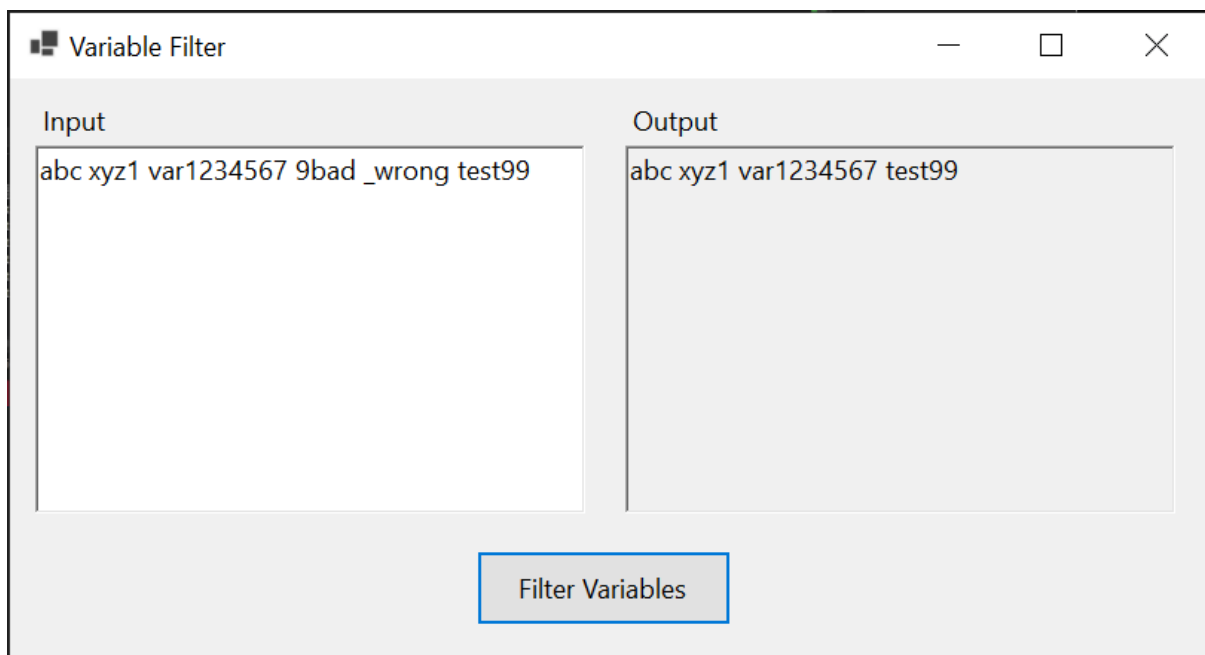
'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.WindowsDesktop.App\8.0.19\Microsoft.Win32.SystemEvents.dll'. Skipped loading symbols. Module is optimized for performance.

'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Collections.NonGeneric.dll'. Skipped loading symbols. Module is optimized for performance.

'Lab Actictys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Text.RegularExpressions.dll'. Skipped loading symbols. Module is optimized for performance.

The thread '.NET TP Worker' (15448) has exited with code 0 (0x0).

The thread '.NET TP Worker' (18812) has exited with code 0 (0x0).



Variable Filter

Input

abc xyz1 var1234567 9bad _wrong test99

Output

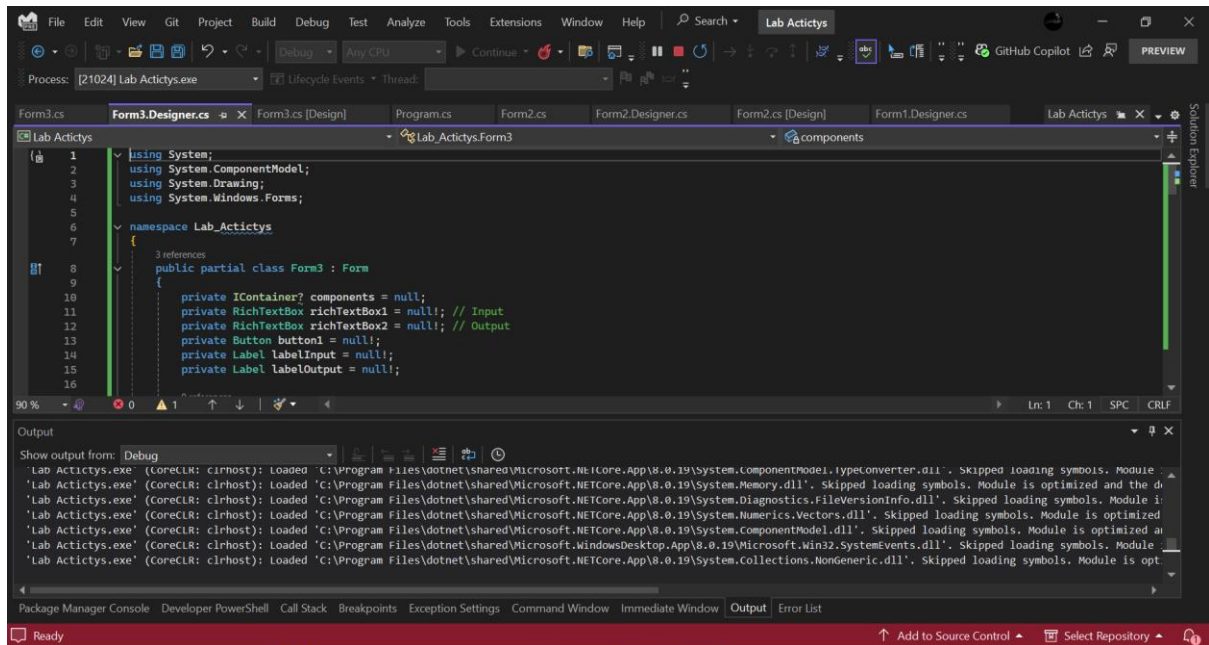
abc xyz1 var1234567 test99

Filter Variables

Lab 03

Activity 1:

Design a regular expression for constants (digits plus floating point numbers): Regular Expression for Constants: $[0-9]+((.[0-9]+)?([e]/[+-]?[0-9]+)?)?$ Using Datagrid view.



```
1 using System;
2 using System.ComponentModel;
3 using System.Drawing;
4 using System.Windows.Forms;
5
6 namespace Lab_Actitys
7 {
8     3 references
9     public partial class Form3 : Form
10     {
11         private IContainer? components = null;
12         private RichTextBox richTextBox1 = null; // Input
13         private RichTextBox richTextBox2 = null; // Output
14         private Button button1 = null;
15         private Label labelInput = null;
16         private Label labelOutput = null;
17     }
18 }
```

Output

Show output from: Debug

'Lab Actitys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.ComponentModel.TypeConverter.dll'. Skipped loading symbols. Module is optimized and the d

'Lab Actitys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Memory.dll'. Skipped loading symbols. Module is optimized and the d

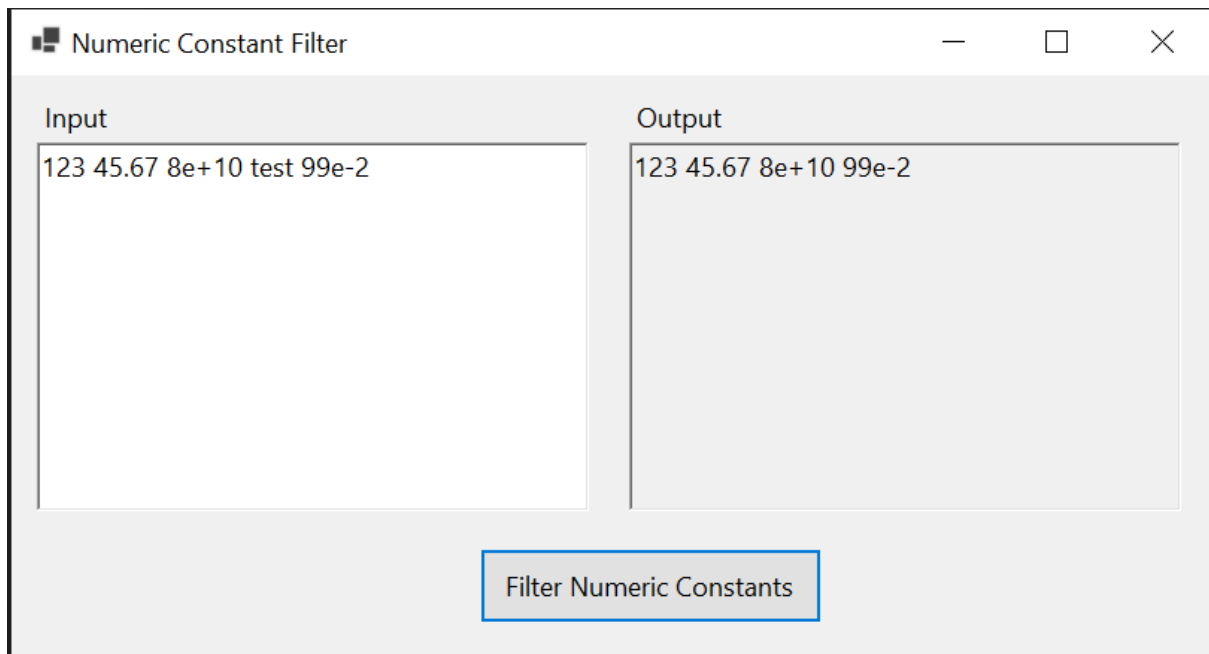
'Lab Actitys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Diagnostics.FileVersionInfo.dll'. Skipped loading symbols. Module i

'Lab Actitys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Numerics.Vectors.dll'. Skipped loading symbols. Module is optimized

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'Lab Actitys.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\8.0.19\System.Collections.NonGeneric.dll'. Skipped loading symbols. Module is opt



Numeric Constant Filter

Input

123 45.67 8e+10 test 99e-2

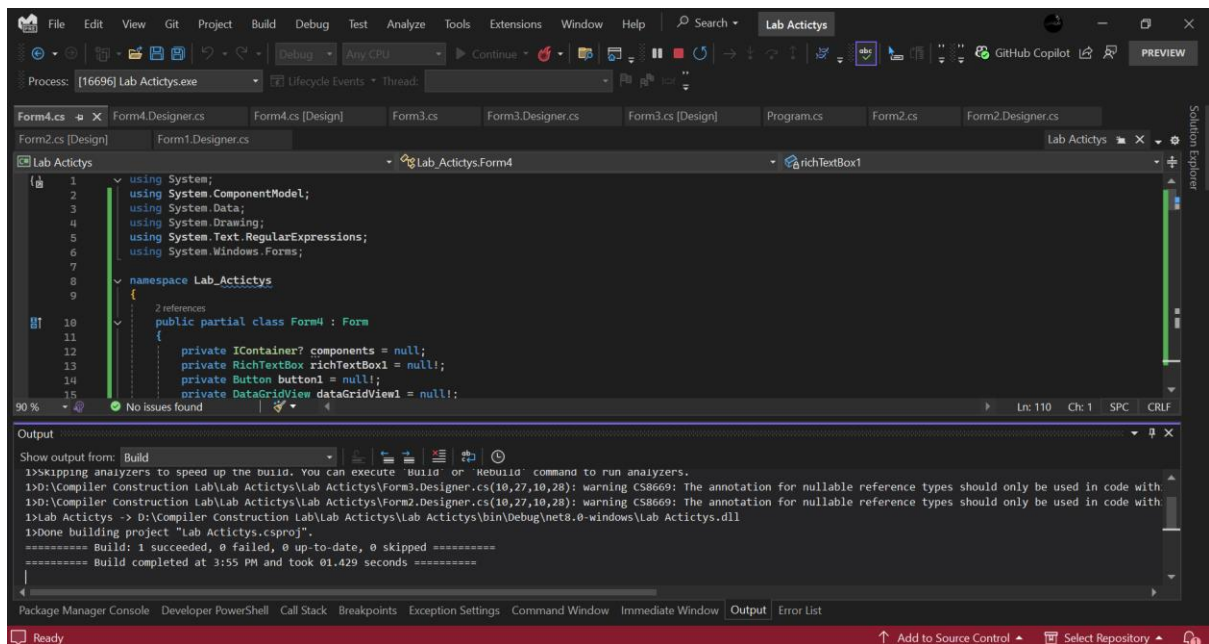
Output

123 45.67 8e+10 99e-2

Filter Numeric Constants

Activity 2:

Design a regular expression for keywords.(Using Datagrid view). Regular Expression for keywords:[int | float | double | char]



BT10public partial class Form1 : Form

Keyword Filter

int 23

Filter Keywords

	Valid Keywords
▶	int
*	