LAB 2 Task1:

```csharp
using System;

using System.Text.RegularExpressions;


class Program

{

    static void Main()

    {

        string input = "bool result = a && b || !c;";


        // Regular expression to match logical operators in C#

        string pattern = @"&&|\|\||!";


        // Find matches

        MatchCollection matches = Regex.Matches(input, pattern);


        Console.WriteLine("Logical operators found:");

        foreach (Match match in matches)

        {

            Console.WriteLine(match.Value);

        }

    }

}
```

LAB 2 Task 2:

```csharp
using System;

using System.Text.RegularExpressions;

class Program

{

    static void Main()

    {

        string input = "if (a >= b && c != d) { return a == b; }";


        // Regular expression to match relational operators in C#

        string pattern = @"==|!=|>=|<=|>|<";


        // Find matches

        MatchCollection matches = Regex.Matches(input, pattern);


        Console.WriteLine("Relational operators found:");

        foreach (Match match in matches)

        {

            Console.WriteLine(match.Value);

        }

    }

}
```

LAB 3 Task 1:

```
using System;

using System.Text.RegularExpressions;


class Program

{

    static void Main()

    {

        string[] testCases = { "12.34", "123456.7", "1.2345", "0.12", "123.45", "123456",
"12.3456", ".123" };

        string pattern = @"\b\d{0,5}\.\d{1,5}\b";


        foreach (string testCase in testCases)

        {

            if (Regex.IsMatch(testCase, pattern))

            {

                Console.WriteLine($"Valid: {testCase}");

            }

            else

            {

                Console.WriteLine($"Invalid: {testCase}");

            }

        }

    }

}
```