LAB 2 Task 1:

```
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:

```
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}");
            }
        }
    }
}
```