

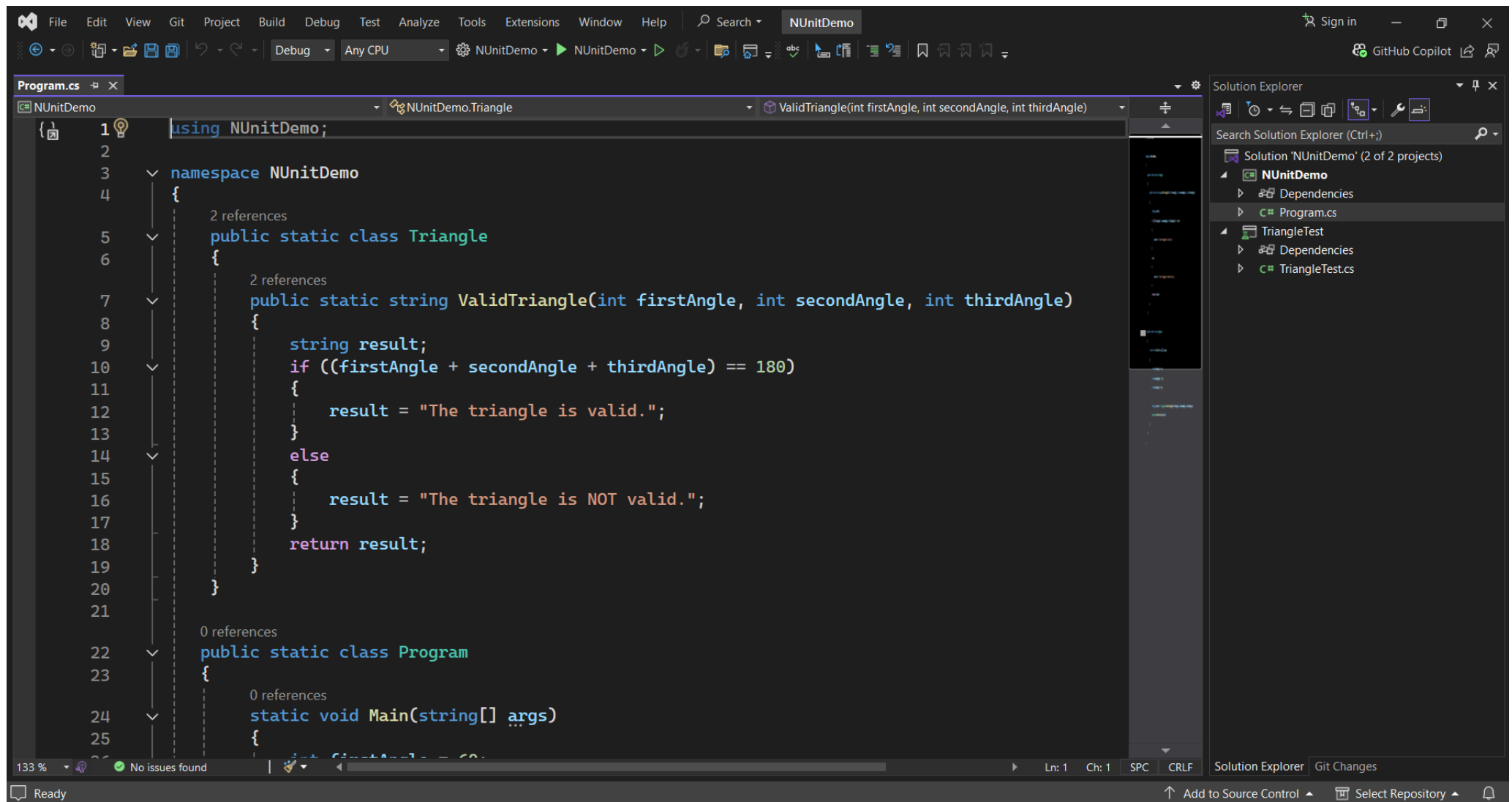
## **Lab 2: Unit Testing**

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**Subject:** Software Testing Methodologies (SENG8041)

## Screenshot for Program.cs in NUnitDemo:



Visual Studio interface showing a C# program in `Program.cs` within the `NUnitDemo` solution.

The code defines a `Triangle` class with a `ValidTriangle` method and a `Program` class with a `Main` method.

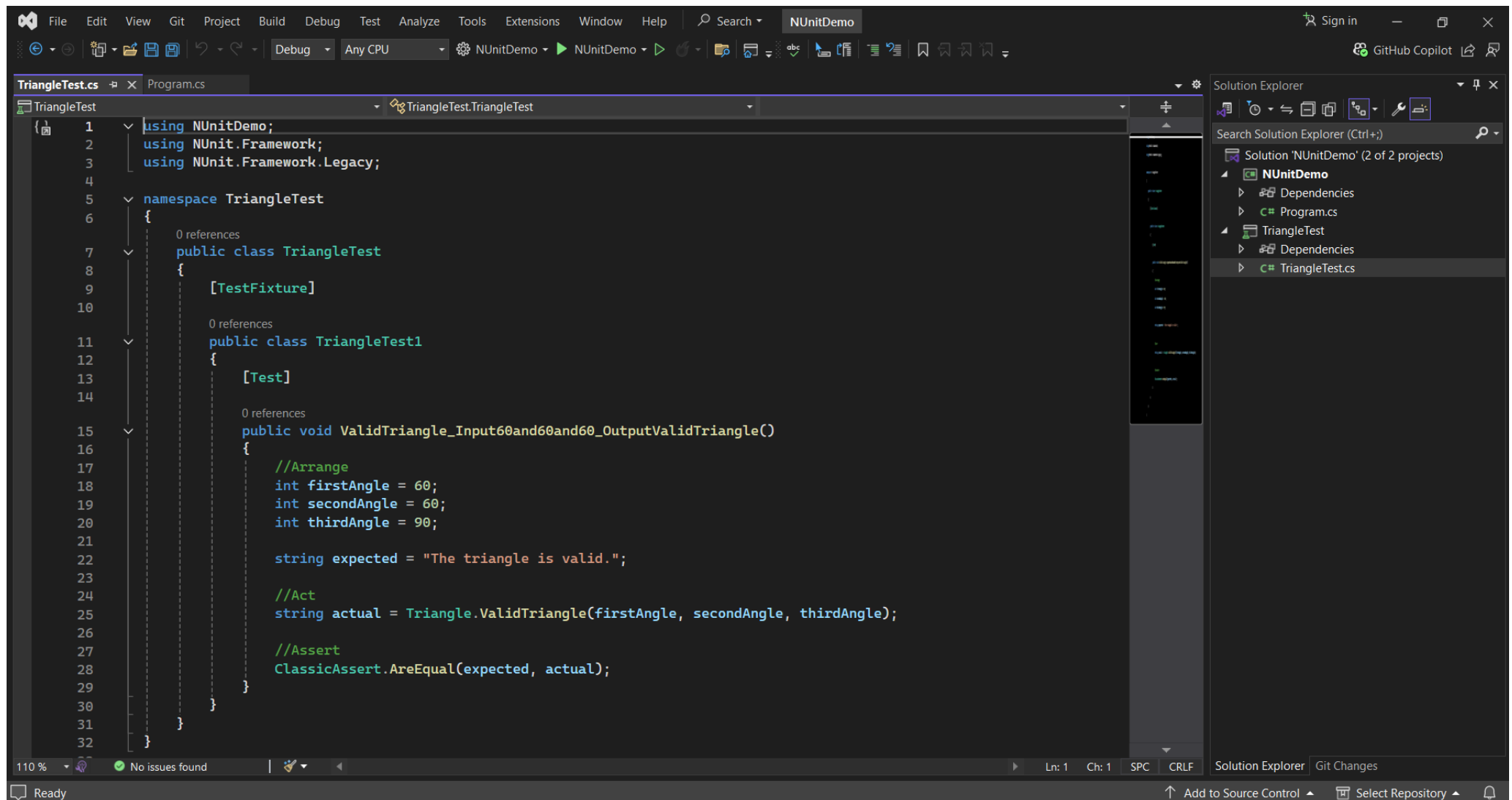
```
11 {
12     result = "The triangle is valid.";
13 }
14 else
15 {
16     result = "The triangle is NOT valid.";
17 }
18 return result;
19 }
20 }
21
22 0 references
23 public static class Program
24 {
25     0 references
26     static void Main(string[] args)
27     {
28         int firstAngle = 60;
29         int secondAngle = 60;
30         int thirdAngle = 60;
31
32         string result = Triangle.ValidTriangle(firstAngle, secondAngle, thirdAngle);
33         Console.WriteLine(result);
34     }
35 }
36
```

The Solution Explorer on the right shows the project structure:

- Solution 'NUnitDemo' (2 of 2 projects)
  - NUnitDemo
    - Dependencies
    - C# Program.cs
  - TriangleTest
    - Dependencies
    - C# TriangleTest.cs

StatusBar: 133 % | No issues found | Ln: 36 Ch: 1 SPC CRLF | Add to Source Control | Select Repository

## Screenshot for TriangleTest.cs in TriangleTest:



Screenshot for Pass Test:

Test Explorer

1

1

0

Search (Ctrl+I)

Test run finished: 1 Tests (1 Passed, 0 Failed, 0 Skipped) run in 137 ms

0 Warnings

0 Errors

Test	Duration	Traits	Error Message
TriangleTest (1)	4 ms		
TriangleTest (1)	4 ms		
TriangleTest+TriangleTest1 (1)	4 ms		
ValidTriangle_Input60and60and...	4 ms		

Run

Debug

Group Summary

TriangleTest

Tests in group: 1

Total Duration: 4 ms

Outcomes

1 Passed

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search NUnitDemo Sign in GitHub Copilot

NuGet: TriangleTest TriangleTest.cs TriangleTest.GlobalUsings.g.cs Program.cs

```
1 using NUnitDemo;
2 using NUnit.Framework;
3 using NUnit.Framework.Legacy;
4
5 namespace TriangleTest
6 {
7     0 references
8     public class TriangleTest
9     {
10         [TestFixture]
11
12         0 references
13         public class TriangleTest1
14         {
15             [Test]
16
17             0 references
18             public void ValidTriangle_Input60and60and60_OutputValidTri
19             {
20                 //Arrange
21                 int firstAngle = 60;
22                 int secondAngle = 60;
23                 int thirdAngle = 60;
24
25                 string expected = "The triangle is valid.";
```

Test Explorer

Test run finished: 1 Tests (1 Passed, 0 Failed, 0 Skipped) run in 137 ms

Test	Duration	Traits	Error Message
TriangleTest (1)	4 ms		
TriangleTest (1)	4 ms		
TriangleTest+TriangleTest1 (1)	4 ms		
ValidTriangle_Input60and60and60...	4 ms		

0 Warnings 0 Errors

Run Debug

Group Summary

TriangleTest

Tests in group: 1

Total Duration: 4 ms

Outcomes

1 Passed

110 % No issues found Ln: 6 Ch: 2 SPC CRLF

Output

Show output from: Build

```
1>----- Build started: Project: TriangleTest, Configuration: Debug Any CPU -----
1>Skipping analyzers to speed up the build. You can execute 'Build' or 'Rebuild' command to run analyzers.
1>TriangleTest -> C:\Users\surti\source\repos\STM Subject Projects\TriangleTest\bin\Debug\net8.0\TriangleTest.dll
===== Build: 1 succeeded, 0 failed, 1 up-to-date, 0 skipped =====
===== Build completed at 1:06 PM and took 01.966 seconds =====
```

Error List Output

Ready Add to Source Control Select Repository

Screenshot for Fail Test:

Test Explorer

1

0

1

Search (Ctrl+I)

Test run finished: 1 Tests (0 Passed, 1 Failed, 0 Skipped) run in 159 ms

0 Warnings

0 Errors

Test	Duration	Traits	Error Message
TriangleTest (1)	22 ms		
TriangleTest (1)	22 ms		
TriangleTest+TriangleTest1 (1)	22 ms		
ValidTriangle_Input60and60and...	22 ms		Assert.That(actual, l...

Run

Debug

Group Summary

TriangleTest

Tests in group: 1

Total Duration: 22 ms

Outcomes

1 Failed

