Date:22/09/2022
LabSessionNo.:08

Task 8:Design a test case for testing for Visual C# using NUNIT for Triangle and Palindrome

Task 8: Testing visual c# using NUnit.

Aim: To perform testing visual c# using NUnit.

Procedure:

Steps:

1. Creating Class Library.
   - Click on File and select New project
   - Click on Visual C# and rename it as Triangle
   - Click on Finish
2. Add the following code

For Triangle

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Triangle
{
    public class check_triangle
    {
        public int check_sides(int a, int b, int c)
        {
            if(a+b<=c || b+c<=a ||c+a<=b)
            {
                return 0;
            }
            if(a==b & b==c)
            {
                return 1;
            }
            else if(a==b & b!=c || b==c & c!=a || c==a & a!=b)
            {
                return 2;
            }
            else
            {
                return 3;
            }
        }
    }

}
```

For Palindrome

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Palindrome
{
    public class check_palindrome
    {
        public int check_palin(String word)
        {
            string reversestr = string.Empty;
            if (word != null)
            {
                for (int i = word.Length - 1; i >= 0; i--)
                {
                    reversestr += word[i].ToString();
                }
                if (reversestr == word)
                {
                    return 1;
                }
                else
                {
                    return 0;
                }
            }
            return 0;
        }
    }
}
```

Add new class Library

- Right click on Project in Solution explorer.
- Click on Add and New Project(Class Library) as Test
- Type the following code

For Triangle

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using NUnit.Framework;
using Triangle;
namespace Test
{
    [TestFixture]
    public class Class1
    {
        [Test]
        public void prs()
        {
            check_triangle p1 = new check_triangle();
            Assert.AreEqual(1, p1.check_sides(3,3,3));
            Assert.AreEqual(2, p1.check_sides(3,3,5));
            Assert.AreEqual(3, p1.check_sides(3,4,5));
            Assert.AreEqual(2, p1.check_sides(2,1,2));
        }
        [Test]
        public void prs1()
        {
            check_triangle p1 = new check_triangle();
            Assert.AreEqual(1, p1.check_sides(3, 3, 3));
            Assert.AreEqual(2, p1.check_sides(3, 3, 5));
            Assert.AreEqual(3, p1.check_sides(3, 4, 5));
            Assert.AreEqual(3, p1.check_sides(2, 1, 2));
        }
    }
}
```

For Palindrome

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace Palindrome
{
    public class check_palindrome
    {
        public int check_palin(String word)
        {
            string reversestr = string.Empty;
            if (word != null)
            {
                for (int i = word.Length - 1; i >= 0; i--)
                {
                    reversestr += word[i].ToString();
                }
                if (reversestr == word)
                {
                    return 1;
                }
                else
                {
                    return 0;
                }
            }
            return 0;
        }
    }
}
```

3. Add references
    - Right Click on Test and click on Add references
    - Add the Existing Project and also nunit.framework.dll

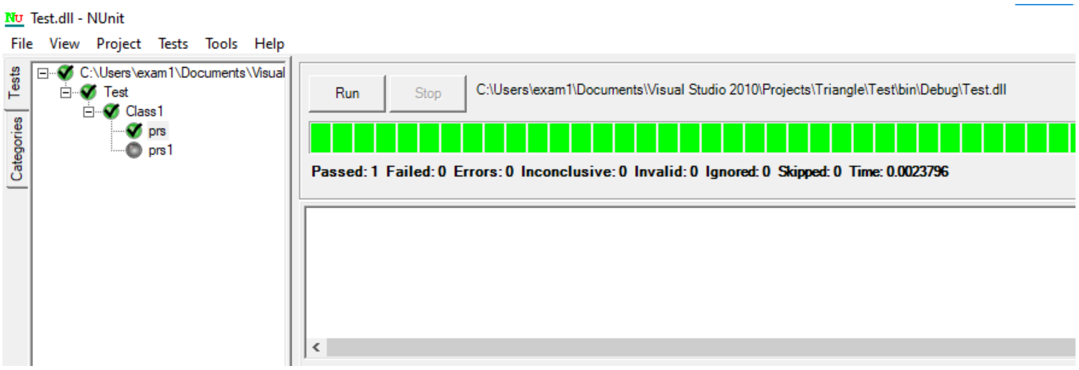
- Click on OK

4. Build Solution
   - Click on Build
   - Now click on Build Solution
5. Testing using NUnit
   - Open NUnit and click on File
   - Click on Open project and select the Visual Project
   - Select the test code project.
   - Click on bin and then on debug and then on Test.dll

   Click on Run

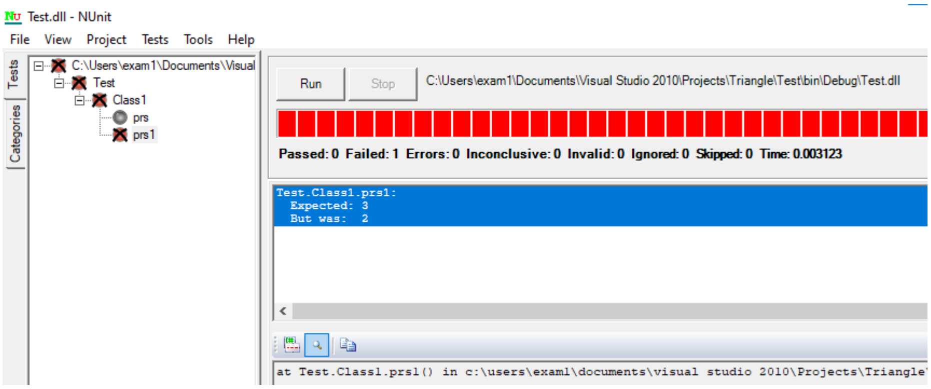
Output:

Pass Case


Test.dll - NUnit
File View Project Tests Tools Help
Tests
Categories
C:\Users\exam1\Documents\Visual
Test
Class1
prs
prs1
Run
Stop

```
C:\Users\exam1\Documents\Visual Studio 2010\Projects\Triangle\Test\bin\Debug\Test.dll
Passed: 1  Failed: 0  Errors: 0  Inconclusive: 0  Invalid: 0  Ignored: 0  Skipped: 0  Time: 0.0023796
```

Fail Case


Test.dll - NUnit
File View Project Tests Tools Help
Tests
Categories
C:\Users\exam1\Documents\Visual
Test
Class1
prs
prs1
Run
Stop

```
C:\Users\exam1\Documents\Visual Studio 2010\Projects\Triangle\Test\bin\Debug\Test.dll
Passed: 0  Failed: 1  Errors: 0  Inconclusive: 0  Invalid: 0  Ignored: 0  Skipped: 0  Time: 0.003123
```

```
Test.Class1.prs1:
  Expected:  3
  But was:   2
```

```
at Test.Class1.prs1() in c:\users\exam1\documents\visual studio 2010\Projects\Triangle
```

Test suite design:

Project Name: NUnit Testing for Triangle

Test case id: ID_8 **Test Designed by:T.Avinash**
Test Priority: low **Test Designed Date**:22/09/22
Module Name: Nunit Testing **Test Executed by**:**T.Avinash**
Test Title: Blackbox testing
Test Executed Date: 22/09/22
Description: Test case for problem using NUnit Testing for Triangle

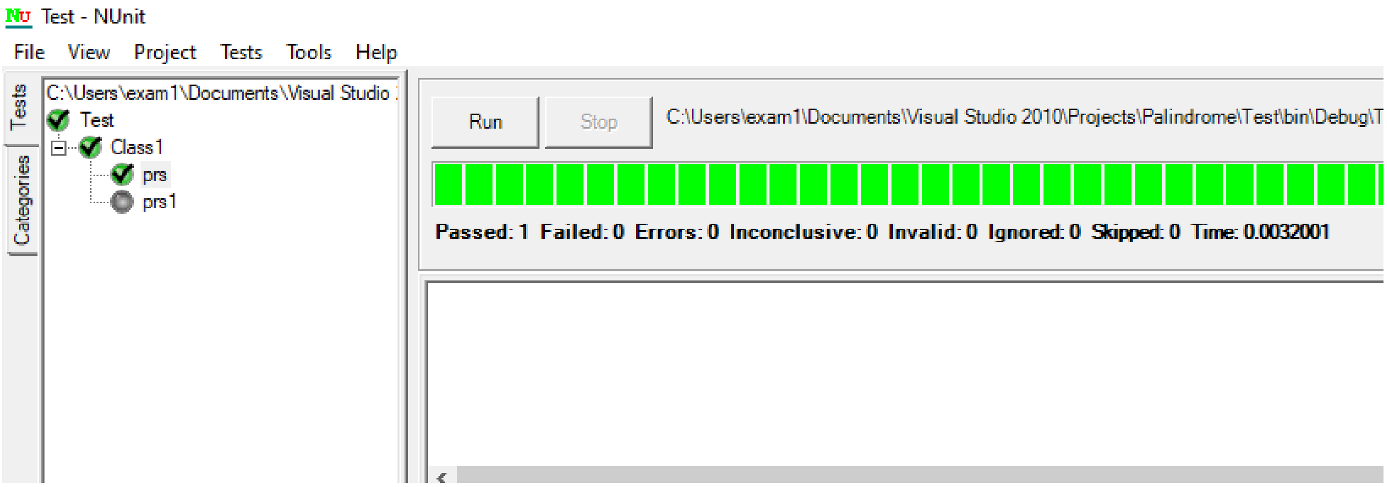
Pre-Condition: User should give two input numbers and one expected output

Stage	**Test Steps**	**Test Data**	**Expected Result**	**Actual Result**	**status (Pass /Fail)**	**Remarks**
1	Case1	3,3,3	1	1	Pass	Nil
2	Case2	3,3,5	2	2	Pass	Nil
3	Case3	3,4,5	3	3	Pass	Nil
4	Case4	2,1,2	2	1	Fail	Nil

Post condition: Expected result should match with value returned by function

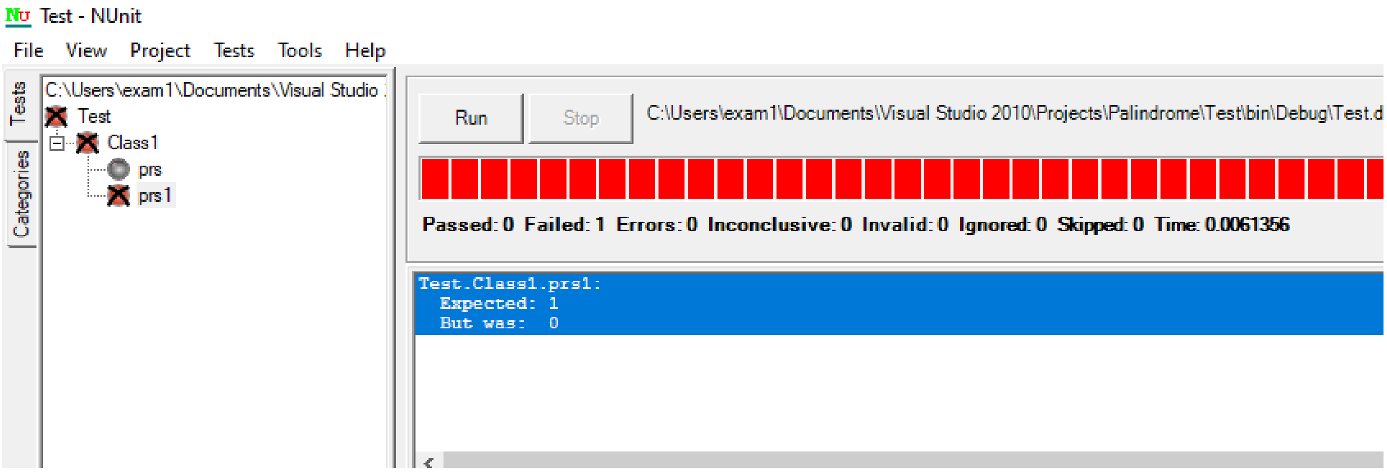
For Palindrome

Pass Case


Test - NUnit
File
View
Project
Tests
Tools
Help
Tests
Categories
C:\Users\exam1\Documents\Visual Studio
Test
Class1
prs
prs1
Run
Stop
C:\Users\exam1\Documents\Visual Studio 2010\Projects\Palindrome\Test\bin\Debug\T

```
Passed: 1  Failed: 0  Errors: 0  Inconclusive: 0  Invalid: 0  Ignored: 0  Skipped: 0  Time: 0.0032001
```

Fail Case


Test - NUnit
File
View
Project
Tests
Tools
Help
Tests
Categories
C:\Users\exam1\Documents\Visual Studio
Test
Class1
prs
prs1
Run
Stop
C:\Users\exam1\Documents\Visual Studio 2010\Projects\Palindrome\Test\bin\Debug\Test.d

```
Passed: 0  Failed: 1  Errors: 0  Inconclusive: 0  Invalid: 0  Ignored: 0  Skipped: 0  Time: 0.0061356
```

```
Test.Class1.prs1:
  Expected:  1
  But was:   0
```

Project Name: NUnit Testing for Palindrome

Test case id: ID_8 **Test Designed by:T.Avinash**

Test Priority: low **Test Designed Date**:22/09/22

Module Name: Nunit Testing **Test Executed by**:**T.Avinash**

Test Title: Blackbox testing

Test Executed Date: 22/09/22

Description: Test case for problem using NUnit Testing for Palindrome

Pre-Condition: User should give two input numbers and one expected output

Stage	**Test Steps**	**Test Data**	**Expected Result**	**Actual Result**	**status (Pass /Fail)**	**Remarks**
1	Case1	“madam”	1	1	Pass	Nil
2	Case2	“malayalam”	1	1	Pass	Nil
3	Case3	“venkat”	1	0	Fail	Nil

Post condition: Expected result should match with value returned by function

Result: Performing testing visual c# using NUnit has been implemented successfully.

Evaluator’s Observation

Marks Secured:______out of___________

Full Name of the Evaluator: **Student’s Signature**

Signature of the Evaluator: **Date of Evaluation:**