Swinburne University of Technology

COS20007 Object Oriented Programming

Case Study Iteration 1 - Identifiable Object

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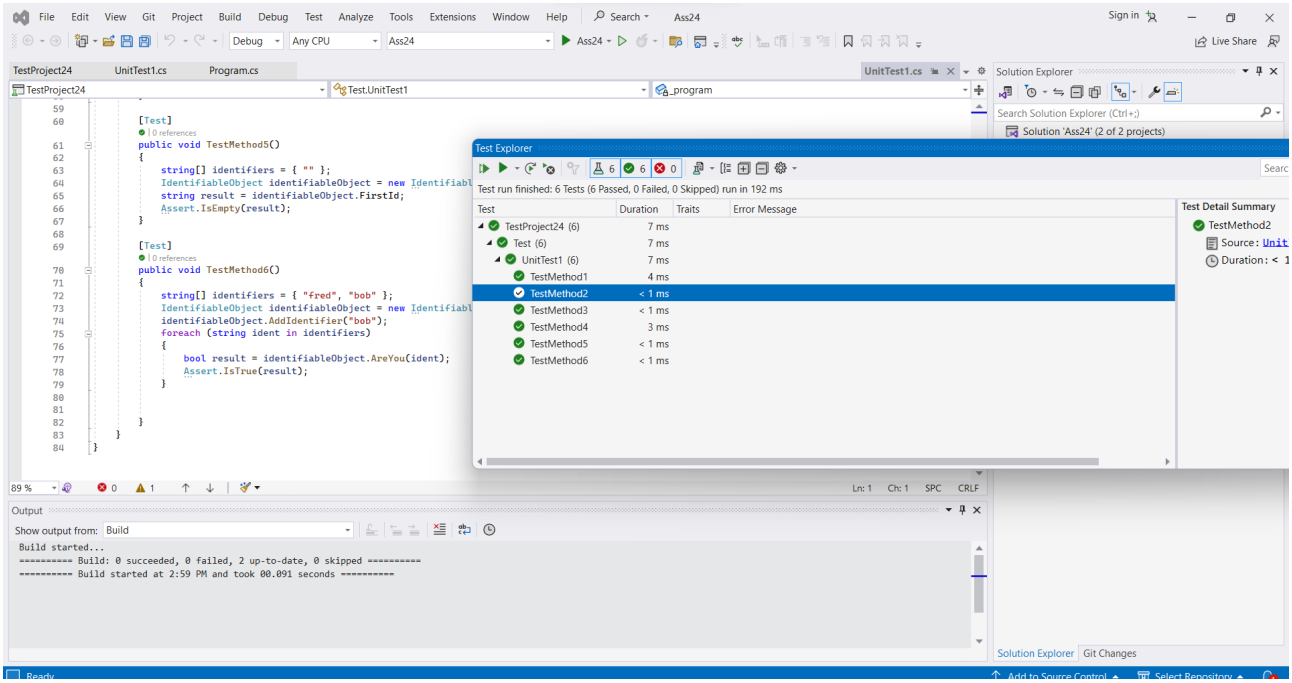
```
namespace Program
{
    public class IdentifiableObject
    {
        private List<string> _identifiers = new List<string>();
        public IdentifiableObject(string[] indents)
        {
            foreach (var ident in indents) { _identifiers.Add(ident); }

        }

        public bool AreYou(string id)
        {
            if (_identifiers.Contains(id, StringComparer.OrdinalIgnoreCase))
            {
                return true;
            }
            return false;
        }

        public string FirstId
        {
            get
            {
                if (_identifiers.Count == 0)
                    return "";
                return _identifiers[0];
            }
        }

        public void AddIdentifier(string id)
        {
            _identifiers.Add(id.ToLower());
        }
    }

    public class Program
    {
        public static void Main(string[] args)
        {
            IdentifiableObject id = new IdentifiableObject(new string[] { "id1",
    ↪  "id2" });
        }
    }
}
```

```
using Microsoft.VisualStudio.TestPlatform.TestHost;
using NUnit.Framework;
using Program;


namespace Test
{
    [TestFixture]
    public class UnitTest1
    {
        Program.Program _program;



        [SetUp]
        public void Setup()
        {
            _program = new Program.Program();

        }

        [Test]
        public void TestMethod1()
        {
            string[] identifiers = { "fred", "bob" };
            IdentifiableObject identifiableObject = new
↪   IdentifiableObject(identifiers);
            bool result = identifiableObject.AreYou(identifiers[0]);
            Assert.IsTrue(result);
            bool result2 = identifiableObject.AreYou(identifiers[1]);
            Assert.IsTrue(result2);
        }

        [Test]
        public void TestMethod2()
        {
            string[] identifiers = { "fred", "bob" };
            IdentifiableObject identifiableObject = new
↪   IdentifiableObject(identifiers);
            bool result = identifiableObject.AreYou("not fred");
            Assert.IsFalse(result);
        }

        [Test]
        public void TestMethod3()
        {
            string[] identifiers = { "fred", "bob" };
            IdentifiableObject identifiableObject = new
↪   IdentifiableObject(identifiers);
            bool result = identifiableObject.AreYou("FRED");
            Assert.IsTrue(result);
        }

```

```
51          [Test]
52          public void TestMethod4()
53          {
54              string[] identifiers = { "fred", "bob" };
55              IdentifiableObject identifiableObject = new
    ↪  IdentifiableObject(identifiers);
56              string result = identifiableObject.FirstId;
57              Assert.AreEqual(identifiers[0], result);
58          }
59
60          [Test]
61          public void TestMethod5()
62          {
63              string[] identifiers = { "" };
64              IdentifiableObject identifiableObject = new
    ↪  IdentifiableObject(identifiers);
65              string result = identifiableObject.FirstId;
66              Assert.IsEmpty(result);
67          }
68
69          [Test]
70          public void TestMethod6()
71          {
72              string[] identifiers = { "fred", "bob" };
73              IdentifiableObject identifiableObject = new
    ↪  IdentifiableObject(identifiers);
74              identifiableObject.AddIdentifier("bob");
75              foreach (string ident in identifiers)
76              {
77                  bool result = identifiableObject.AreYou(ident);
78                  Assert.IsTrue(result);
79              }
80
81
82          }
83      }
84  }
```


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Ass24
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Debug
Any CPU
Ass24
TestProject24
UnitTest1.cs
Program.cs
Test.UnitTest1
_program
[Test]
public void TestMethod5()
{
string[] identifiers = { "" };
IdentifiableObject identifiableObject = new Identifiabl
string result = identifiableObject.FirstId;
Assert.IsEmpty(result);
}
[Test]
public void TestMethod6()
{
string[] identifiers = { "fred", "bob" };
IdentifiableObject identifiableObject = new Identifiabl
identifiableObject.AddIdentifier("bob");
foreach (string ident in identifiers)
{
bool result = identifiableObject.AreYou(ident);
Assert.IsTrue(result);
}
}
}
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Ass24' (2 of 2 projects)
Test Explorer
Test run finished: 6 Tests (6 Passed, 0 Failed, 0 Skipped) run in 192 ms
Test
Duration
Traits
Error Message
TestProject24 (6) 7 ms
Test (6) 7 ms
UnitTest1 (6) 7 ms
TestMethod1 4 ms
TestMethod2 < 1 ms
TestMethod3 < 1 ms
TestMethod4 3 ms
TestMethod5 < 1 ms
TestMethod6 < 1 ms
Test Detail Summary
TestMethod2
Source: Unit
Duration: < 1
Output
Show output from: Build
Build started...
========== Build: 0 succeeded, 0 failed, 2 up-to-date, 0 skipped ==========
========== Build started at 2:59 PM and took 00.091 seconds ==========
Solution Explorer
Git Changes
Ready
Add to Source Control
Select Repository