

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

Case Study Iteration 1 - Identifiable Object

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```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7
8  namespace Iteration1
9  {
10     public class IdentifiableObject
11     {
12         private List<string> _identifiers;
13
14         public IdentifiableObject(string[] idents)
15         {
16             _identifiers = new List<string>();
17
18             foreach (string id in idents)
19             {
20                 AddIdentifier(id.ToLower());
21             }
22         }
23
24         public bool AreYou(string id)
25         {
26             if (_identifiers.Contains(id.ToLower()))
27             {
28                 return true;
29             }
30             else
31             {
32                 return false;
33             }
34         }
35
36         public string FirstId
37         {
38             get
39             {
40                 if (_identifiers.Count > 0)
41                     return _identifiers[0];
42                 else
43                     return "";
44             }
45         }
46
47         public void AddIdentifier(string id)
48         {
49             _identifiers.Add(id.ToLower());
50         }
51     }
52 }
```

```
1 using System;
2 using System.Collections.Generic;
3 using NUnit.Framework;
4 using Iteration1;
5
6 namespace Iteration1Test
7 {
8     [TestFixture()]
9     public class IdentifiableObjectTest
10    {
11        private IdentifiableObject id;
12
13        [SetUp()]
14
15        public void Setup()
16        {
17            id = new IdentifiableObject(new string[] { "Fred", "bob" });
18        }
19
20        [Test()]
21        public void TestAreYou()
22        {
23            Assert.IsTrue(id.AreYou("fred"));
24            Assert.IsTrue(id.AreYou("bob"));
25        }
26
27        [Test()]
28        public void TestNotAreYou()
29        {
30            Assert.IsFalse(id.AreYou("wilma"));
31        }
32
33        [Test()]
34        public void TestCaseSensitive()
35        {
36            Assert.IsTrue(id.AreYou("FRED"));
37            Assert.IsTrue(id.AreYou("BOB"));
38        }
39    }
40
41    [Test()]
42    public void TestFirstId()
43    {
44        Assert.AreEqual("fred", id.FirstId);
45    }
46
47    [Test()]
48    public void TestFirstIDNoID()
49    {
50        IdentifiableObject id = new IdentifiableObject(Array.Empty<string>());
51        Assert.AreEqual("", id.FirstId);
52    }
53 }
```

```
54
55     [Test()]
56     public void TestAddID()
57     {
58         id.AddIdentifier("wilma");
59         Assert.IsTrue(id.AreYou("wilma"));
60         Assert.IsTrue(id.AreYou("fred"));
61         Assert.IsTrue(id.AreYou("bob"));
62     }
63 }
64 }
65 }
```

