

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

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## 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         [Test()]
41         public void TestFirstId()
42         {
43             Assert.AreEqual("fred", id.FirstId);
44         }
45
46         [Test()]
47         public void TestFirstIDNoID()
48         {
49             IdentifiableObject id = new IdentifiableObject(Array.Empty<string>());
50             Assert.AreEqual("", id.FirstId);
51         }
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 }
```

