

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

```
1  using NUnit.Framework;
2  using SwinAdventure;
3
4  namespace SwinAdventureTests
5  {
6      public class IdentifiableObjectTests
7      {
8          private IdentifiableObject _iObject;
9          private string[] ids = new[] { "Fred", "Bob" };
10
11          [SetUp]
12          public void Setup()
13          {
14              _iObject = new IdentifiableObject(ids);
15          }
16
17          [Test]
18          public void TestAreYou()
19          {
20              Assert.True(_iObject.AreYou("Fred"));
21          }
22
23          [Test]
24          public void TestNotAreYou()
25          {
26              Assert.False(_iObject.AreYou("Anh"));
27          }
28
29          [Test]
30          public void TestCaseSensitive()
31          {
32              Assert.True(_iObject.AreYou("fred"));
33              Assert.True(_iObject.AreYou("frED"));
34              Assert.True(_iObject.AreYou("FRED"));
35          }
36
37          [Test]
38          public void TestFirstId()
39          {
40              Assert.AreEqual("fred", _iObject.FirstID);
41          }
42          [Test]
43          public void TestFirstIdWithNoId()
44          {
45              string[] emptyIds = new string[] { };
46              _iObject = new IdentifiableObject(emptyIds);
47              Assert.AreEqual("", _iObject.FirstID);
48          }
49
50          [Test]
51          public void TestAddId()
52          {
53              _iObject.AddIdentifier("Wilma");
```

```
54         Assert.True(_iObject.AreYou("Wilma"));
55     }
56
57 }
58 }
```

