

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 Program2._4
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 void AddIdentifier(string id)
22         {
23             _identifiers.Add(id.ToLower());
24         }
25
26         public bool AreYou(string id)
27         {
28             if (_identifiers.Contains(id.ToLower()))
29                 return true;
30             return false;
31         }
32
33
34         public string FirstID
35         {
36             get
37             {
38                 if (_identifiers.Count == 0)
39                 {
40                     return "";
41                 }
42                 else
43                 {
44                     return _identifiers.First();
45                 }
46             }
47         }
48     }
49 }
50
51 }
52 }
```

```
1  using System;
2  using System.Collections;
3  using System.Collections.Generic;
4  using System.Linq;
5  using NUnit.Framework;
6  using Program2._4;
7
8  namespace TestProject2._4
9  {
10     public class Tests
11     {
12
13
14         private IdentifiableObject _obj;
15         private string _string;
16         private string[] _array;
17
18         private IdentifiableObject _tempobj;
19         private string _testString_emp;
20         private string[] _testArray_emp;
21
22         [SetUp]
23         public void Setup()
24         {
25             _string = "Anh";
26             _array = new string[] { "Patch", "Lily" };
27             _obj = new IdentifiableObject(_array);
28             _obj.AddIdentifier(_string);
29
30             _testString_emp = "";
31             _testArray_emp = new string[] { };
32             _tempobj = new IdentifiableObject(_testArray_emp);
33             _tempobj.AddIdentifier(_testString_emp);
34         }
35
36         [Test]
37         public void TestAreYou()
38         {
39             Assert.IsTrue(_obj.AreYou(_string));
40         }
41
42         [Test]
43         public void TestNotAreYou()
44         {
45             Assert.IsFalse(_obj.AreYou("Chi"));
46         }
47
48         [Test]
49         public void Insensitive()
50         {
51             Assert.IsTrue(_obj.AreYou("LILY"));
52         }
53     }
```

```
54         [Test]
55         public void TestFirstId()
56         {
57             Assert.AreEqual("patch", _obj.FirstID);
58             Assert.AreNotEqual("lily", _obj.FirstID);
59         }
60
61         [Test]
62         public void TestFirstIdWithNoId()
63         {
64             Assert.AreEqual("", _tempobj.FirstID);
65         }
66
67         [Test]
68         public void TestAddID()
69         {
70             _tempobj.AddIdentifier("Dang");
71             _obj.AddIdentifier("Chi");
72             Assert.IsTrue(_tempobj.AreYou("Dang"));
73             Assert.IsTrue(_obj.AreYou("Chi"));
74         }
75     }
76 }
77
78 }
```

