

COS20007 - Object Oriented Programming

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**2.4P - Identifiable Object with your
ID**

```
namespace SwinAdventure
{
    public class Program
    {
        public static void Main(string[] args)
        {
            Console.WriteLine("I'm making Indentifiable Object");
        }
    }
}
```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace SwinAdventure
{
    public class IdenObj
    {
        //fields
        private List<string> _identifiers;
        string _myStudentID = "7489";

        //constructor
        public IdenObj(string[] ids)
        {
            _identifiers = new List<string>();
            if (ids != null)
            {
                for (int i = 0; i < ids.Length; i++)
                {
                    _identifiers.Add(ids[i].ToLower());
                }
            }
        }

        //methods
        public bool AreYou(string id)
        {
            return _identifiers.Contains(id.ToLower());
        }

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

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

```
public void PrivilegeEscalation(string pin)
{
    if(pin.Length == 4)
    {
        if(pin == _myStudentID) //105547489
        {
            _identifiers[0] = _myStudentID;
        }
    }
    else
    {
        return;
    }
}
}
```

```
namespace SwinAdventure
{
    public class ObjTest
    {
        private IdenObj _testObject;
        private string _testString;
        private string[] _testArray;
        private IdenObj _testObject_emp;
        private string _testString_emp;
        private string[] _testArray_emp;

        [SetUp]
        public void Setup()
        {
            _testString = "Duc";
            _testArray = new string[] { "0209", "Duc", "Manh" };
            _testObject = new IdenObj(_testArray);
            _testObject.AddIdentifier(_testString);
            _testString_emp = "";
            _testArray_emp = new string[] { };
            _testObject_emp = new IdenObj(_testArray_emp);
            _testObject_emp.AddIdentifier(_testString_emp);
        }

        [Test]
        public void TestAreYou()
        {
            Assert.IsTrue(_testObject.AreYou(_testString));
        }

        [Test]
        public void TestNotAreYou()
        {
            Assert.IsFalse(_testObject.AreYou("Trung"));
        }

        [Test]
        public void Insensitive()
        {
            Assert.IsTrue(_testObject.AreYou("DUC"));
        }

        [Test]
        public void TestFirstId()
        {
            Assert.That(_testObject.FirstId, Is.EqualTo("0209"));
            Assert.That(_testObject.FirstId, Is.Not.EqualTo("Duc"));
        }
    }
}
```

```
[Test]
public void TestFirstIdWithNoIds()
{
    Assert.That(_testObject_emp.FirstId, Is.EqualTo(""));
}

[Test]
public void TestAddID()
{
    _testObject.AddIdentifier("Trung");
    _testObject.AddIdentifier("Ninh");
    Assert.IsTrue(_testObject.AreYou("Trung"));
    Assert.IsTrue(_testObject.AreYou("Ninh"));
}

[Test]
public void TestPrivilegeEscalation()
{
    _testObject.PrivilegeEscalation("7489");
    Assert.That(_testObject.FirstId, Is.EqualTo("7489"));
}
}
```

Test Explorer



Search (Ctrl+I)



Test run finished: 7 Tests (7 Passed, 0 Failed, 0 Skipped) run in 322 ms

0 Warnings 0 Errors

Test	Duration	Traits	Error Message
ObjTest (7)	25 ms		
SwinAdventure (7)	25 ms		
ObjTest (7)	25 ms		
Insensitive	12 ms		
TestAddID	< 1 ms		
TestAreYou	< 1 ms		
TestFirstId	13 ms		
TestFirstIdWithNolds	< 1 ms		
TestNotAreYou	< 1 ms		
TestPrivilegeEscalation	< 1 ms		

Run | Debug

Test Detail Summary

TestFirstId

Source: [UnitTest1.cs](#) line 44

Duration: 13 ms