

# School of magic program

## Related Learning Outcomes

### ULO1 – Explain the OO Principles

The exercise demonstrated the use of enumerations

### ULO2 – Use OO Language and Library

The exercise demonstrated the syntax for creating and using enumerations.

It also introduced the concept of indexers in C# which helps to access values in List-type fields within an object.

### ULO3 – Design, Develop and Test using an IDE

This exercise demonstrated how to create new enumeration files with Xamarin studio. It also provides practice for unit testing using Xamarin Studio.

### ULO4 – Communicate using UML Diagrams

This exercise introduced a new addition to the UML diagram for illustrating enumerations.

### ULO5 – Describe Elements of Good OO Design

## Screenshots

Code running

A screenshot of the Xamarin Studio External Console window. The window title is "Xamarin Studio External Console". The console output shows a sequence of casting actions and their effects: "Casting 'Mitch's mighty mover' ... Poof... you appear somewhere else", "Casting 'Paul's potent poultice' ... Ahhh... you feel better", "Casting 'David's dashing disappearance' ... Zippp... where am I?", "Casting 'Stan's stunning shifter' ... Poof... you appear somewhere else", and "Casting 'Lachlan's lavish longevity' ... Ahhh... you feel better". The output ends with "Press any key to continue . . .". The console has a scrollbar on the right side.

```
Casting "Mitch's mighty mover" ... Poof... you appear somewhere else
Casting "Paul's potent poultice" ... Ahhh... you feel better
Casting "David's dashing disappearance" ... Zippp... where am I?
Casting "Stan's stunning shifter" ... Poof... you appear somewhere else
Casting "Lachlan's lavish longevity" ... Ahhh... you feel better
Press any key to continue . . .
```

## Running Tests

C:\Users\LinhShin\Documents\Projects\Pass3-Spells\Pass3-Spells\SpellBookTests.cs - Xamarin Studio

File Edit View Search Project Build Run Version Control Tools Window Help

Debug Default Build successful. Press 'Control+', to search

Solution

- Pass3-Spells
  - Pass3-Spells
    - References
    - Packages
    - Properties
    - AssemblyInfo.cs
    - SpellBook.cs
    - packages.config
    - Program.cs
    - Spell.cs
    - SpellKind.cs
    - SpellTest.cs

Program.cs

```
1 using NUnit.Framework;
2 using System;
3 using System.Collections.Generic;
4
5 namespace Pass3Spells
6 {
7     [TestFixture ()]
8     public class SpellBookTest
9     {
10         [Test()]
11         public void SpellAdditionTest()
12         {
13             SpellBook myBook = new SpellBook ();
14             Spell testSpell = new Spell ("\"Mitch's mighty mover\"", SpellKind.Teleport);
15
16             Spell s = testSpell;
17             myBook.AddSpell (s);
18
19             Assert.IsNotNull(myBook[0]);
20         }
21     }
22 }
```

Test Results

Successful Tests Inconclusive Tests Failed Tests Ignored Tests Output Rerun Tests

Test results for Pass3-Spells configuration Debug|x86

- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.NameChangeTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellAdditionTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellFetchTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellRemovalTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestHeal
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestInvisibility

Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.NameChangeTest ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellAdditionTest ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellFetchTest ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.SpellRemovalTest ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestHeal ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestInvisibility ...  
Running Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestTeleport ...

Passed: 7 Failed: 0 Errors: 0 Inconclusive: 0 Invalid: 0 Ignored: 0 Skipped: 0 Time: 00:00:00.0250000

Pass3-Spells - SpellTest.cs - Xamarin Studio

File Edit View Search Project Build Run Version Control Tools Window Help

Debug Default Build successful. Press 'Control+', to search

Solution

- Pass3-Spells
  - Pass3-Spells
    - References
    - Packages
    - Properties
    - AssemblyInfo.cs
    - Heal.cs
    - Invisibility.cs
    - packages.config
    - Program.cs
    - Spell.cs
    - SpellBook.cs
    - SpellBookTests.cs
    - SpellKind.cs
    - SpellTest.cs
    - Teleport.cs

SpellTest.cs

```
8 {
9     [Test ()]
10    public void TestTeleport()
11    {
12        Teleport spell = new Teleport ("Shunkan Idou");
13
14        string s = spell.Cast ();
15
16        if (spell.Success)
17        {
18            Assert.AreEqual (s, "Poof... you appear somewhere else");
19
20            do
21            {
22                s = spell.Cast ();
23                if (!spell.Success)
24                {
25                    Assert.AreEqual (s, "arrr... I'm too tired to move");
26                } while (spell.Success);
27            } else
28            {
29                Assert.AreEqual (s, "arrr... I'm too tired to move");
30            }
31        }
32    }
33 }
```

Test Results

Successful Tests Inconclusive Tests Failed Tests Ignored Tests Output Rerun Tests

Test results for Pass3-Spells configuration Debug|x86

- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellBookTest.SpellAdditionTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellBookTest.SpellFetchTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellBookTest.SpellRemovalTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.NameChangeTest
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestHeal
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestInvisibility
- Pass3-Spells.Pass3-Spells.Pass3Spells.SpellTest.TestTeleport

Passed: 7 Failed: 0 Errors: 0 Inconclusive: 0 Invalid: 0 Ignored: 0 Skipped: 0 Time: 00:00:00.0210000