

SWINBURNE UNIVERSITY OF TECHNOLOGY

COS20007 OBJECT ORIENTED PROGRAMMING

Case Study - Iteration 3 - Bags

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```
1  using System;
2  namespace Iteration3
3  {
4      public class Bag:Item
5      {
6          Inventory _inventory = new Inventory();
7          public Bag(string[] ids, string name, string desc):base(ids, name, desc)
8          {
9
10
11      }
12      public Game_Object Locate(string id)
13      {
14          if (AreYou(id) == true)
15          {
16              return this;
17          }
18          return _inventory.Fetch(id);
19      }
20      public override string FullDescription
21      {
22          get
23          {
24              return ("In this " + Name + " you can see:\n" + Inv.ItemList);
25          }
26      }
27      public Inventory Inv
28      {
29          get
30          {
31              return _inventory;
32          }
33      }
34  }
35  }
```

```
1  using System;
2  using System.Xml.Linq;
3  using Iteration3;
4  namespace Iteration3
5  {
6      [TestFixture()]
7      public class BagTest
8      {
9
10
11         Bag bag1, bag2;
12         Item shovel, sword;
13
14
15         [SetUp()]
16         public void Constructor_BagTest()
17         {
18
19             //bag1 = new(new string[] { "bag" }, "leather bag", "small brown");
20             bag1 = new Bag(new string[] { "bag" }, "leather bag", "small brown");
21             bag2 = new Bag(new string[] { "bag2" }, "Jute bag", "pretty big");
22             shovel = new Item(new string[] { "shovel" }, "shovel", "");
23             sword = new Item(new string[] { "sword" }, "sword", "bronze");
24
25             bag1.Inv.Put(shovel);
26             bag2.Inv.Put(sword);
27             bag1.Inv.Put(bag2);
28
29
30
31         }
32         [Test()]
33         public void Test_Bag_Locates_Items()
34         {
35
36             Assert.AreEqual(shovel, bag1.Locate("shovel"));
37             Assert.IsTrue(bag1.Inv.HasItem("shovel"));
38
39             Assert.AreEqual(sword, bag2.Locate("sword"));
40             Assert.IsTrue(bag2.Inv.HasItem("sword"));
41
42         }
43         [Test()]
44         public void Test_Bag_Locates_Itself()
45         {
46             Assert.AreEqual(bag1, bag1.Locate("bag"));
47             Assert.AreEqual(bag2, bag2.Locate("bag2"));
48
49         }
50         [Test()]
51         public void Test_Bag_Locates_Nothing()
52         {
53             Assert.AreNotEqual(bag1, bag1.Locate("nothing"));
```

```
54
55         Assert.AreNotEqual(bag2, bag2.Locate("nothing"));
56     }
57     [Test()]
58     public void Test_Bag_Full_Description()
59     {
60         Assert.AreEqual(bag1.FullDescription, "In this leather bag you can
↪ see:\n\ta shovel (shovel)\n\ta Jute bag (bag2)\n");
61
62         Assert.AreEqual(bag2.FullDescription, "In this Jute bag you can see:\n\ta
↪ sword (sword)\n");
63     }
64     [Test()]
65     public void Test_Bag_In_Bag()
66     {
67         Assert.AreEqual(bag2, bag1.Locate("bag2"));
68         Assert.AreEqual(shovel, bag1.Locate("shovel"));
69
70         Assert.AreNotEqual(sword, bag1.Locate("sword"));
71
72     }
73
74 }
75 }
76
```

