

Bag.cs

C:\Users\PC\Desktop\COS20007\Week_5\5.2P\Iteration1\Bag.cs

1

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6
7  namespace Iteration1
8  {
9      public class Bag : Item
10     {
11         private Inventory _inventory;
12
13         public Bag(string[] ids, string name, string desc) : base(ids,      ↵
14             name, desc)
14         {
15             _inventory = new Inventory();
16         }
17
18         public GameObject Locate(string id)
19         {
20             if (AreYou(id))
21             {
22                 return this;
23             }
24             else if (_inventory.HasItem(id))
25             {
26                 return _inventory.Fetch(id);
27             }
28             return null;
29         }
30
31         public override string FullDescription
32         {
33             get
34             {
35                 string description = null;
36                 description += $"In the {this.Name} you can see:\n";
37                 description += _inventory.ItemList;
38                 return description;
39             }
40         }
41
42         public Inventory Inventory
43         {
44             get => _inventory;
45         }
46     }
47 }
```

BagUnitTests.cs

...esktop\COS20007\Week_5\5.2P\BagUnitTests\UnitTest1.cs

1

```
1  using Iteration1;
2  using System.Numerics;
3
4  namespace BagUnitTests
5  {
6      public class Tests
7      {
8          Bag bag1;
9          Bag bag2;
10         Item sword;
11         Item ak47;
12         Item machine_gun;
13
14         [SetUp]
15         public void Setup()
16         {
17             bag1 = new Bag(new string[] { "bag1", "1" }, "Bag 1", "This is ↵
18                         the 1st bag of the player!");
19             sword = new Item(new string[] { "sword", "melee" }, "bronze" ↵
20                           "sword", "Melee weapon. High damage.");
21             ak47 = new Item(new string[] { "ak47", "gun" }, "ak47", "Gun." ↵
22                           "High Damage.");
23             bag1.Inventory.Put(sword);
24             bag1.Inventory.Put(ak47);
25         }
26
27         [Test]
28         public void TestBagLocatesItems()
29         {
30             Assert.That(bag1.Locate("sword"), Is.EqualTo(sword));
31             Assert.That(bag1.Inventory.HasItem("sword"), Is.EqualTo(true));
32             Assert.Pass();
33         }
34
35         [Test]
36         public void TestBagLocatesItself()
37         {
38             Assert.That(bag1.Locate("bag1"), Is.EqualTo(bag1));
39             Assert.Pass();
40         }
41
42         [Test]
43         public void TestBagLocatesNothing()
44         {
45             Assert.That(bag1.Locate("machine gun"), Is.EqualTo(null));
46             Assert.Pass();
47         }
48
49         [Test]
```

```
47     public void TestBagFullDescription()
48     {
49         Assert.That(bag1.FullDescription, Is.EqualTo($"In the
50             {bag1.Name} you can see:\n      a bronze sword (sword)\n      a
51             ak47 (ak47)\n"));
52         Assert.Pass();
53     }
54
55     [Test]
56     public void TestBagInBag()
57     {
58         bag2 = new Bag(new string[] { "bag2", "2" }, "Bag 2", "This is
59             the 2nd part of the player!");
60         machine_gun = new Item(new string[] { "machine gun", "super
61             gun" }, "machine gun", "this is a weapon having lots of
62             bullets");
63         bag2.Inventory.Put(machine_gun);
64
65         bag1.Inventory.Put(bag2);
66         Assert.That(bag1.Locate("bag2"), Is.EqualTo(bag2));
67         Assert.That(bag1.Locate("ak47"), Is.EqualTo(ak47));
68         Assert.That(bag1.Locate("machine gun"), Is.EqualTo(null));
69         Assert.Pass();
70     }
71 }
```

Output Testing

The screenshot shows a Microsoft Visual Studio interface with the following details:

- File Explorer:** Shows the project structure with 'Iteration1' as the active solution.
- Solution Explorer:** Lists the projects: BagUnitTests, ItemUnitTests, Iteration1, and C# UnitTest1.cs. It also shows files like Bag.cs, InventoryUnitTests, and Program.cs.
- Test Explorer:** Displays the results of a test run:
 - Total duration: 188 ms
 - Passed: 24 Tests (24 Passed, 0 Failed, 0 Skipped)
 - Group Summary: BagUnitTests (5 tests total, 17 ms total duration)
 - Outcomes: 5 Passed
- Code Editor:** Shows two files:
 - BagUnitTests.cs:** Contains unit tests for the Bag class, including methods like TestBagLocatesNothing, TestBagLocatesItself, and TestBagLocatesItems.
 - Bag.cs:** Contains the implementation of the Bag class, including a TestBagFullDescription() method that asserts the full description of a bag containing specific items.
- Status Bar:** Shows the current line (Ln: 29), character (Ch: 27), and file (SPC). It also indicates CRLF line endings.
- Taskbar:** Shows icons for File Explorer, Edge, File History, and other system tools.