

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

namespace SwinAdventureTest
{
    public class BagTest
    {
        private Bag bag;
        private Item key;
        private Item book;

        [SetUp]
        public void Setup()
        {
            bag = new Bag(new string[] { "Bag" }, "A small Bag", "A bag for
                holding all items.");
            key = new Item(new string[] { "Key" }, "A small Key", "A key for
                opening a door.");
            book = new Item(new string[] { "Book" }, "A useful book", "A book
                that is filled with knowledge.");
        }

        [Test]
        public void TestBagLocatesItself()
        {
            GameObject locatedBag = bag.Locate("bag");
            Assert.AreEqual(bag, locatedBag);
        }

        [Test]
        public void TestBagLocatesItems()
        {
            Setup();
            bag.Inventory.Put(key);
            GameObject locatedItem = bag.Locate("key");
            Assert.AreEqual(key, locatedItem);
        }

        [Test]
        public void TestBagLocatesNothing()
        {
            GameObject locatedObject = bag.Locate("book");
            Assert.IsNull(locatedObject, "Bag should not locate an item that
                is not in it.");
        }

        [Test]
        public void TestBagInBag()
        {

```

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    Bag bag1 = new Bag(new string[] { "outer" }, "Outer Bag", "A  
        larger bag.");  
    Bag bag2 = new Bag(new string[] { "inner" }, "Inner Bag", "A  
        smaller bag.");  
    bag1.Inventory.Put(bag2);  
    bag1.Inventory.Put(key);  
    bag2.Inventory.Put(book);  
  
    GameObject locatedInnerBag = bag1.Locate("inner");  
    GameObject locatedKeyInB1 = bag1.Locate("key");  
    GameObject locatedKeyInB2 = bag2.Locate("key");  
  
    Assert.AreEqual(bag2, locatedInnerBag);  
    Assert.AreEqual(key, locatedKeyInB1);  
  
    Assert.AreNotEqual(key, locatedKeyInB2);  
  
    GameObject locatedbookinb1 = bag1.Locate("book");  
    GameObject locatedbookinb2 = bag2.Locate("book");  
  
    Assert.AreEqual(book, locatedbookinb2);  
    Assert.AreNotEqual(book, locatedbookinb1);  
}  
[Test]  
public void TestBagFullDescription()  
{  
    bag.Inventory.Put(key);  
    bag.Inventory.Put(book);  
  
    string expectedstring = "In A small Bag can see: A small Key (key)   
        \nA useful book (book)\n";  
  
    Assert.AreEqual(expectedstring, bag.FullDescription);  
}  
}
```