Command.cs

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

namespace SwinAdventure
{
    public abstract class Command:IdentifiableObject
    {
        public Command(string[] ids) : base(ids) { }

        public abstract string Execute(Player p, string[] text);
    }
}
```

LookCommand.cs:

```
using SwinAdventure;

public class LookCommand : Command
{
    public LookCommand() : base(new string[] { "look" }) { }

    public override string Execute(Player player, string[] text)
    {
        // Error if the input is not in the correct format
        if (text.Length != 3 && text.Length != 5)
        {
            return "I don't know how to look like that";
        }
```

```
if (text[0] != "look")
{
    return "Error in look input";
}

if (text[1] != "at")
{
    return "What do you want to look at?";
}

string itemId = text[2];
IHaveInventory container;

// Handle "look at item in container"
if (text.Length == 5)
{
    if (text[3] != "in")
    {
        return "What do you want to look in?";
    }

    string containerId = text[4];
    container = FetchContainer(player, containerId);

    // Container not found
    if (container == null)
    {
        return $"I cannot find the {containerId}.";
    }
}
else
```

```
        {
            // If no container specified, use player inventory
            container = player;
        }

        // Try to locate the item in the container
        GameObject item = container.Locate(itemId);

        if (item == null)
        {
            return $"I cannot find the {itemId} in the {container.Name}.";
        }

        // Return full description of the located item
        return item.GetFullDescription();
    }

    // Fetch the container (like a bag) where the player is looking
    private IHaveInventory FetchContainer(Player player, string containerId)
    {
        return player.Locate(containerId) as IHaveInventory;
    }
}
```

IHaveInventory.cs:

```
using System.Collections.Generic;
using System.Linq;

namespace SwinAdventure
{
    public class Inventory
```

```
{
    private List<Item> _items;

    public Inventory()
    {
        _items = new List<Item>();
    }

    public void Put(Item item)
    {
        if (item == null)
        {
            throw new ArgumentNullException(nameof(item), "Item cannot be null");
        }

        _items.Add(item);
        Console.WriteLine($"Item '{item.Name}' added to inventory.");
    }

    public Item Take(string id)
    {
        Item itemToTake = Fetch(id);
        if (itemToTake != null)
        {
            _items.Remove(itemToTake);
        }
        return itemToTake;
    }

    public Item Fetch(string id)
    {
```

```
            foreach (Item item in _items)
            {
                if (item.AreYou(id))
                {
                    return item;
                }
            }
            return null;
        }

        public bool HasItem(string id)
        {
            return Fetch(id) != null;
        }

        public string ItemList
        {
            get
            {
                string itemList = "";
                foreach (Item item in _items)
                {
                    itemList += $"\t{item.ShortDescription} ({item.FirstId})\n";
                }
                return itemList;
            }
        }
    }
}
```

Player.cs:

```
using MiNET.Utils.Skins;
using System;

namespace SwinAdventure
{
    public class Player : GameObject, IHaveInventory
    {
        private Inventory _inventory;


        public Player(string name, string description) : base(new string[] { "me", "inventory" }, name, description)
        {
            _inventory = new Inventory();
        }

        public override string GetFullDescription()
        {

            return $"You are {Name}, {ShortDescription}. You are holding " + _inventory.ItemList;
        }



        public GameObject Locate(string id)
        {
            if (AreYou(id))
            {
                return this;
            }
            return _inventory.Fetch(id);
```

```
        }


        public Inventory Inventory
        {
            get { return _inventory; }
        }
    }
}
```

Bag.cs:

```
using MiNET.Utils.Skins;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace SwinAdventure
{
    public  class Bag : Item, IHaveInventory
    {
        private Inventory _inventory;

        public Bag(string[] ids, string name, string desc) : base(ids, name, desc)
        {
            _inventory = new Inventory();
        }

        public override string GetFullDescription()
        {
```

```
            return $" You are {Name}, a brave adventurer. You are holding" + _inventory.ItemList;
        }
        public Inventory Inventory
        {
            get { return _inventory; }
        }

        public GameObject Locate(string id)
        {
            if (AreYou(id))
            {
                return this;
            }
            return _inventory.Fetch(id);
        }
    }

}
```

TestLook command.cs:

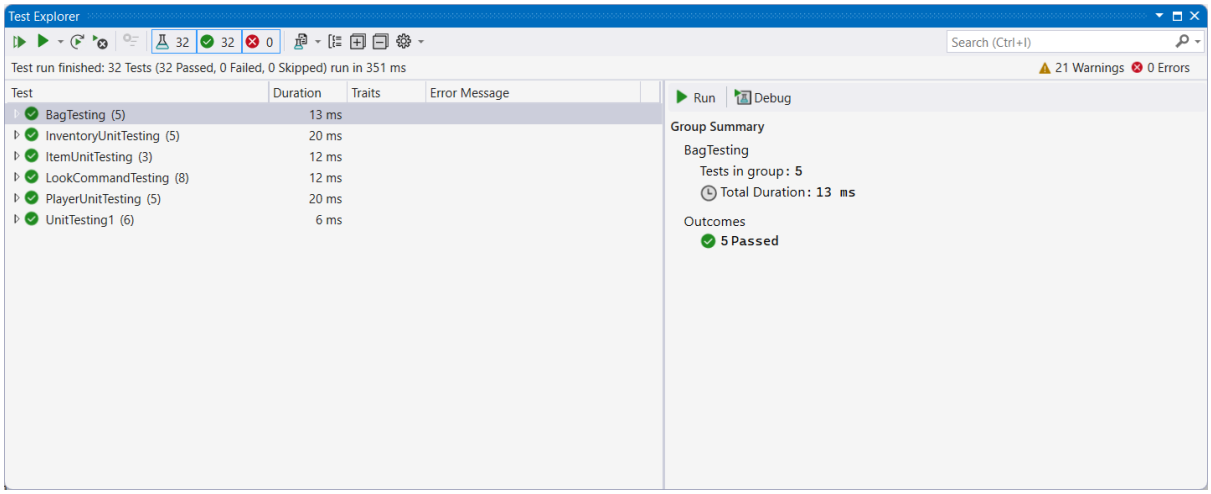
```
using NUnit.Framework;

namespace SwinAdventure.Tests
{
    [TestFixture]
    public class LookCommandTests
    {
        private Player _player;
        private LookCommand _lookCommand;
        private Item _gem;
```

```
    private Bag _bag;

    [SetUp]
    public void Setup()
    {
        // Initialize LookCommand
        _lookCommand = new LookCommand();

        // Initialize player, gem, and bag
        _player = new Player("Player", "A brave adventurer");
        _gem = new Item(new string[] { "gem" }, "a gem", "A shiny red gem");
        _bag = new Bag(new string[] { "bag" }, "a small bag", "A small leather bag");

        // Add gem to the player's inventory
        _player.Inventory.Put(_gem);

        // Add the bag to the player's inventory
        _player.Inventory.Put(_bag);

        // Add another gem to the bag
        Item anotherGem = new Item(new string[] { "gem" }, "another gem", "Another shiny gem");
        _bag.Inventory.Put(anotherGem);
    }

    [Test]
    public void TestLookAtMe()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "inventory" });
        Assert.AreEqual("You are Player, A brave adventurer. You are holding \tA shiny red gem
(gem)\n\tA small leather bag (bag)\n", result);
    }
```

```
    [Test]
    public void TestLookAtGem()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "gem" });
        Assert.AreEqual("a gem: A shiny red gem", result);
    }

    [Test]
    public void TestLookAtUnk()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "unknown" });
        Assert.AreEqual("I cannot find the unknown in the Player.", result);
    }

    [Test]
    public void TestLookAtGemInMe()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "gem", "in",
"inventory" });
        Assert.AreEqual("a gem: A shiny red gem", result);
    }

    [Test]
    public void TestLookAtGemInBag()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "gem", "in", "bag"
});
        Assert.AreEqual("another gem: Another shiny gem", result);
    }

    [Test]
```

```
    public void TestLookAtGemInNoBag()
    {
        string result = _lookCommand.Execute(_player, new string[] { "look", "at", "gem", "in",
"nonexistentbag" });
        Assert.AreEqual("I cannot find the nonexistentbag.", result);
    }

    [Test]
    public void TestLookAtNoGemInBag()
    {
        Player player = new Player("Player", "A brave adventurer");
        Bag smallBag = new Bag(new string[] { "small bag" }, "small bag", "A small leather bag");

        Item anotherGem = new Item(new string[] { "another gem" }, "another gem", "Another shiny
gem");
        player.Inventory.Put(smallBag);
        smallBag.Inventory.Put(anotherGem);

        LookCommand lookCommand = new LookCommand();
        string result = lookCommand.Execute(player, new string[] { "look", "at", "gem", "in", "small
bag" });

        Assert.AreEqual("I cannot find the gem in the small bag.", result);
    }


    [Test]
    public void TestInvalidLook()
    {
        string result = _lookCommand.Execute(_player, new string[] { "hello" });
        Assert.AreEqual("I don't know how to look like that", result);
    }
```

```
    }
}
```


Test Explorer
32
32
0
Search (Ctrl+I)
Test run finished: 32 Tests (32 Passed, 0 Failed, 0 Skipped) run in 351 ms
21 Warnings
0 Errors
Test
Duration
Traits
Error Message
BagTesting (5) 13 ms
InventoryUnitTesting (5) 20 ms
ItemUnitTesting (3) 12 ms
LookCommandTesting (8) 12 ms
PlayerUnitTesting (5) 20 ms
UnitTesting1 (6) 6 ms
Run
Debug
Group Summary
BagTesting
Tests in group: 5
Total Duration: 13 ms
Outcomes
5 Passed