Test run finished: 54 Tests (54 Passed, 0 Failed, 0 Skipped) run in 427 ms

Test	Duration	Traits	Error Message
BagTesting (5)	154 ms		
CommandProcessorTesting (4)	158 ms		
InventoryUnitTesting (5)	158 ms		
ItemUnitTesting (3)	149 ms		
LocationPathTesting (2)	153 ms		
LocationTesting (3)	189 ms		
LookCommandLocationTesting (5)	164 ms		
LookCommandTesting (8)	151 ms		
MoveCommandTesting (3)	154 ms		
PathValidationTesting (1)	163 ms		
PlayerLocationTesting (4)	187 ms		
PlayerUnitTesting (5)	149 ms		
UnitTesting1 (6)	150 ms		

Run | Debug

Group Summary

BagTesting

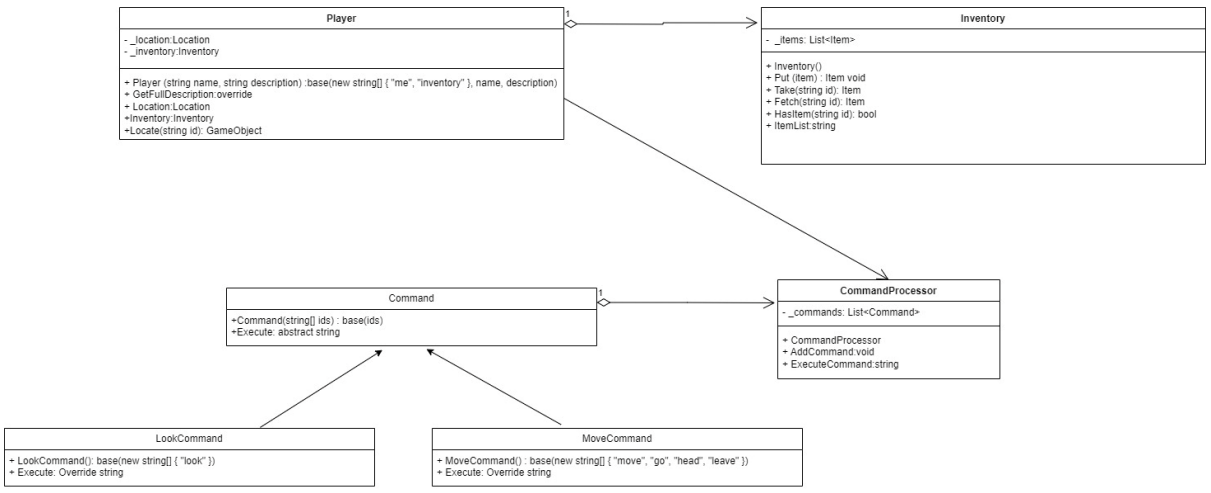
Tests in group: 5

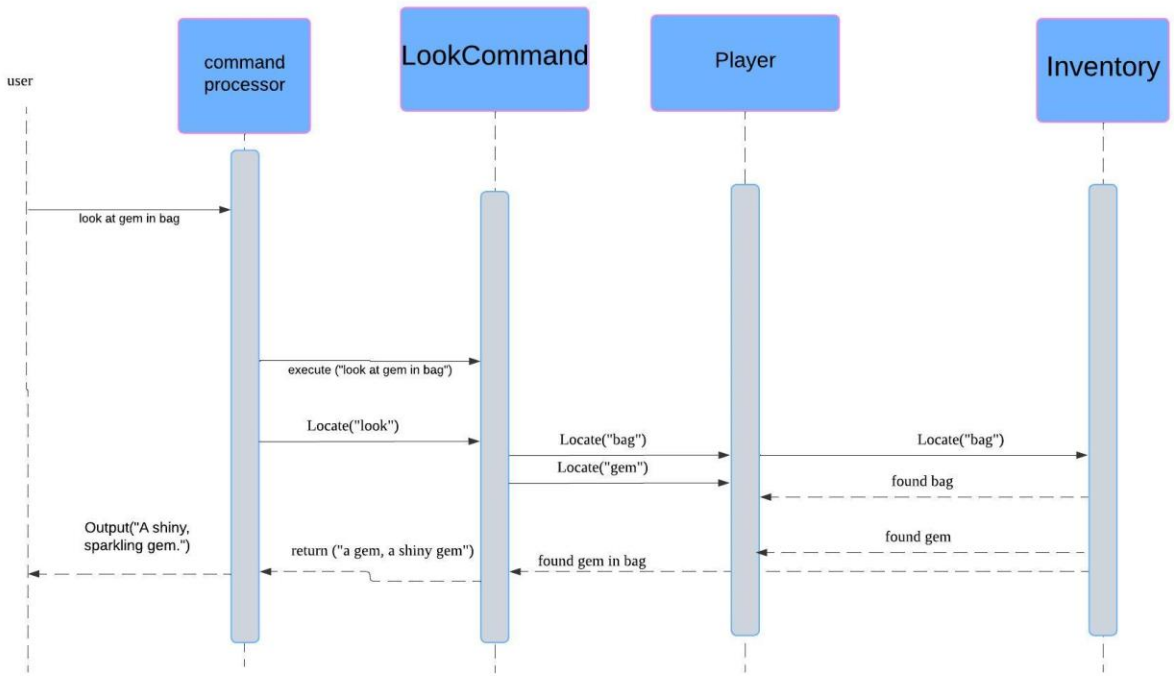
Total Duration: 154 ms

Outcomes

5 Passed

```
C:\Users\joshu\OneDrive\Des
Enter your player's name: joshua
Enter a description for your player: a king

Welcome, joshua the a king!

Item 'Sword' added to inventory.
Item 'Shield' added to inventory.
Item 'a small bag' added to inventory.
A small bag has been added to your inventory.

Item 'a gem' added to inventory.
Item 'gem' has been placed inside the small bag.

Enter a command (or type 'exit' to quit):
look around
Dark Forest: A dark and ominous forest.
Enter a command (or type 'exit' to quit):
move north
You move north to the Small Village.
Enter a command (or type 'exit' to quit):
move west
You can't go that way.
Enter a command (or type 'exit' to quit):
move east
You move east to the Snowy Mountain.
Enter a command (or type 'exit' to quit):
```





Program.cs:

```
using System;
using SwinAdventure;


class Program
{
    static void Main(string[] args)
    {
        // Display available commands at the start
        DisplayHelp();

        // Step 1: Get the player's name and description from the user.
        Console.Write("Enter your player's name: ");
        string playerName = Console.ReadLine();
```

```
        Console.Write("Enter a description for your player: ");
        string playerDescription = Console.ReadLine();

        Player player = new Player(playerName, playerDescription);
        Console.WriteLine($"\nWelcome {playerName}, {playerDescription}!\n");

        // Step 2: Setup locations and paths
        Location home = new Location(new string[] { "home" }, "Home", "Your cozy home.");
        Location forest = new Location(new string[] { "forest" }, "Forest", "A dark, dense forest.");
        Location mountain = new Location(new string[] { "mountain" }, "Mountain", "A tall, imposing
mountain.");

        home.AddPath(new SwinAdventure.Path(SwinAdventure.Path.Direction.North, forest));
        forest.AddPath(new SwinAdventure.Path(SwinAdventure.Path.Direction.South, home));
        forest.AddPath(new SwinAdventure.Path(SwinAdventure.Path.Direction.East, mountain));
        mountain.AddPath(new SwinAdventure.Path(SwinAdventure.Path.Direction.West, forest));

        player.Location = home;
        Console.WriteLine("You are currently at your home.\n");

        // Step 3: Setup player inventory with items
        Item sword = new Item(new string[] { "sword" }, "a sword", "A sharp, shining sword.");
        Item shield = new Item(new string[] { "shield" }, "a shield", "A sturdy wooden shield.");
        player.Inventory.Put(sword);
        player.Inventory.Put(shield);

        Bag smallBag = new Bag(new string[] { "bag", "small bag" }, "a small bag", "A small leather
bag.");
        player.Inventory.Put(smallBag);

        Item gem = new Item(new string[] { "gem" }, "a gem", "A shiny, valuable gem.");
        smallBag.Inventory.Put(gem);
```

```
    // Step 4: Initialize the CommandProcessor and add commands
    CommandProcessor commandProcessor = new CommandProcessor();
    commandProcessor.AddCommand(new MoveCommand());

    // Step 5: Main game loop
    while (true)
    {
        Console.WriteLine($"\nYou are in {player.Location.Name}. Enter a command (or type 'exit' to
quit):");
        string command = Console.ReadLine();

        if (command.ToLower() == "exit")
        {
            break;
        }
        else if (command.ToLower() == "help")
        {
            DisplayHelp();
            continue;
        }

        string[] commandWords = command.Split(' ');

        string result = commandProcessor.ExecuteCommand(player, commandWords);
        Console.WriteLine(result);
    }

    Console.WriteLine("Goodbye!");
  }
```

```
    // Method to display all available commands
    static void DisplayHelp()
    {
        Console.WriteLine("\nAvailable Commands:");
        Console.WriteLine("  look - Examine your current surroundings.");
        Console.WriteLine("  inventory - Check the items you have.");
        Console.WriteLine("  move [direction] - Move in a specified direction (e.g., 'move north').");
        Console.WriteLine("  go [direction] - Another way to move in a direction (e.g., 'go east').");
        Console.WriteLine("  head [direction] - Another way to move in a direction (e.g., 'head west').");
        Console.WriteLine("  leave [direction] - Another way to move in a direction (e.g., 'leave
south').");
        Console.WriteLine("  help - Display this list of commands.");
        Console.WriteLine("  exit - Quit the game.");
        Console.WriteLine();
    }
}
```

Commandprocessor.cs:

```
using System.Collections.Generic;

namespace SwinAdventure
{
    public class CommandProcessor
    {
        private List<Command> _commands;

        public CommandProcessor()
        {
            _commands = new List<Command>
            {
                new MoveCommand(),
```

```
            new LookCommand(),

        };
    }
    public void AddCommand(Command command)
    {
        _commands.Add(command);
    }


    public string ExecuteCommand(Player player, string[] text)
    {
        if (text.Length == 0)
            return "No command provided.";

        string commandId = text[0].ToLower();

        foreach (Command command in _commands)
        {
            if (command.AreYou(commandId))
            {
                return command.Execute(player, text);
            }
        }

        return $"I don't know how to {commandId}.";
    }
  }
}
```

Commandprocessor testing:

```
using NUnit.Framework;
using System.Numerics;
using SwinAdventure;

namespace SwinAdventure.Tests
{
    [TestFixture]
    public class CommandProcessorTests
    {
        private CommandProcessor _commandProcessor;
        private Player _player;
        private Location _startLocation;

        [SetUp]
        public void Setup()
        {
            _startLocation = new Location(new string[] { "start" }, "Starting Location", "The start of your adventure.");
            _player = new Player("Adventurer", "A brave explorer");
            _player.Location = _startLocation;
            _commandProcessor = new CommandProcessor();
        }

        [Test]
        public void TestExecuteMoveCommand()
        {
            _startLocation.AddPath(new Path(Path.Direction.North, new Location(new string[] { "north" }, "North Location", "You are north.")));
            string result = _commandProcessor.ExecuteCommand(_player, new string[] { "move", "north" });
            Assert.AreEqual("You move north to the North Location.", result);
```

```
        }

        [Test]
        public void TestUnknownCommand()
        {
            string result = _commandProcessor.ExecuteCommand(_player, new string[] { "fly", "upward" });
            Assert.AreEqual("I don't know how to fly.", result);
        }

        [Test]
        public void TestIncompleteCommand()
        {
            string result = _commandProcessor.ExecuteCommand(_player, new string[] { "move" });
            Assert.AreEqual("Where do you want to go?", result);
        }

        [Test]
        public void TestExecuteLookCommand()
        {
            _player.Inventory.Put(new Item(new string[] { "gem" }, "a shiny gem", "It's a very shiny gem."));
            string result = _commandProcessor.ExecuteCommand(_player, new string[] { "look", "at", "gem" });
            Assert.AreEqual("a shiny gem: It's a very shiny gem.", result);
        }
    }
}
```