

Text-Based Adventure Game Programming

Overview

In this assignment, you will be developing a simple text-based adventure game using Python. The game will include room navigation, item collection, and player interaction. You'll write several functions to accomplish these tasks.

Function 1: `initialize_rooms()` - 3 pts

Write a function called `initialize_rooms()` that doesn't take any arguments and returns a dictionary representing the map of rooms and their connections. Each room should be connected to others via directions (north, south, east, west), and some rooms should contain items.

Function 2: `move(current_room, direction, rooms)` - 3 pts

Write a function called `move()` that takes the current room, a direction to move in, and the map of rooms as arguments. The function should return the new room after moving in the specified direction. If the move is not possible, the function should print an error message and return the current room.

Function 3: `take_item(current_room)` - 3 pts

Write a function called `take_item()` that takes the current room as an argument. The function should check if there is an item in the current room, add it to the player's inventory, and remove it from the room. If there is no item, print an appropriate message.

Function 4: `use_item(item)` - 4 pts

Write a function called `use_item()` that takes an item as an argument. The function should check if the item is in the player's inventory and perform an action based on the item. If the item is not in the inventory, print an appropriate message.

Function 5: `game()` - 8 pts

Write a function called `game()` that ties everything together and runs the main game loop.

Steps:

- a. **Setup:** Initialize the rooms and set the starting room. Print a welcome message and the goal of the game.
- b. **Game Loop:** Create a while-loop that continues until the player reaches the

goal room. In each iteration, prompt the player for an action (move, take, use, quit). c. **Move:** Call the `move()` function to change the current room based on the player's input. d. **Take Item:** Call the `take_item()` function to pick up an item in the current room. e. **Use Item:** Call the `use_item()` function to use an item from the inventory. f. **Winning:** If the player reaches the goal room, print a congratulatory message and end the game.

Example Game Walkthrough

1. **Start:** The player begins in the 'start' room.
2. **Move to Hallway:** The player chooses to move north to the 'hallway'.
3. **Move to Living Room:** The player moves west to the 'living_room' and finds a key.
4. **Take Key:** The player takes the key.
5. **Move to Hallway:** The player moves east back to the 'hallway'.
6. **Move to Kitchen:** The player moves east to the 'kitchen' and finds a knife.
7. **Take Knife:** The player takes the knife.
8. **Move to Hallway:** The player moves south back to the 'hallway'.
9. **Use Key:** The player uses the key to unlock the path to the 'garden'.
10. **Win:** The player moves north to the 'garden' and wins the game.

Note

Ensure the game correctly handles invalid actions and directions, and provides clear feedback to the player.