

CS116 – Working with larger programs

Purpose: We will extend the text based game from the previous module to give you more experience with working with a larger program.

Skills: After completion of this module you should be able to

1. Extend a larger program with multiple methods

Activity: With your group perform the following tasks and answer the questions. You will be reporting your answers back to the class in 15 minutes.

1. Read through the program and identify all the places in the code that would need to be modified if we add an additional room.
2. Identify all the places in the code that would need to be modified if we add an additional command like picking up an object in a particular room.

Complete each of the following assignments to be submitted for grading. Each should be done individually but you can consult with a classmate to discuss your strategies or if you get an error message that you do not understand.

Assignment 1:

Starting from the original game.py file, add variable `hand=[]` which keep track of a list of items that the player is carrying. Change the program so that the description now informs the player that there is a key in the Living Room. If the player types `key` while in the Living Room the player is now carrying the key. Now, if the player has the key when entering the Kitchen, the stairs become accessible, allowing the player to go "west" and up the stairs. You will have to add some rooms to the game to make this work.

The command `hand.append("key")` will add the item to the list.

The command `"key" in hand` will return true or false depending whether the key is contained in the list `hand`

Criteria For Success: Your game should print the appropriate messages about the key and the player should only be able to go up the stairs if the player has picked up the key.

Assignment 2:

Add a lantern somewhere in the game that the player can pick up in the same way as the key. Note that it is possible that the hand list has both of these items. Create the ability for the player to go down from the Porch to explore secret underground rooms only if the player is holding the lantern.

Criteria For Success: Your game should print the appropriate messages about the lantern and the player should only be able to go down under the porch if the player has picked up the lantern. You have a lot of freedom about where the player finds the lantern and what the player sees under the porch.

Assignment 3:

Add an Ogre back into your game but this time put a bomb somewhere in the game that the player can pick up. If the player has the bomb when encountering the Ogre the player can blast the Ogre to smithereens. If the player encounters the Ogre without the bomb the player will die and the game terminates.

Criteria For Success: You have a lot of freedom for this assignment. Your game must contain an ogre and a bomb. Encountering the ogre without the bomb will result in death of the player and loss of the game. Encountering the ogre with the bomb will result in the ability of the player to kill the ogre.

Assignment 4:

Add winning condition back into your game. You decide!

Criteria For Success: You have a lot of freedom for this assignment. You just have to have a way for the player to win the game and document the condition in your code. Have fun!

Submit your python files with your methods in Canvas for grading.