

Detailed description of the text-based adventure game for Python final programming task

You need to implement a text-based adventure game in Python and submit your code along with a brief README, including the packages/libraries used and a link to your online repository (GitHub). You are expected to follow best practice software engineering guidelines by creating an online repository and committing your code, making small, frequent commits with clearly delineated functionality. Students with very few commit or commit large portions of code in one go will lose marks. For full marks, your programs should also include the following features and characteristics:

1. Well-written, neat, commented code which makes use of functions to break it up
2. Complex data structures such as lists and dictionaries
3. File access, either reading from or writing to files
4. Application of a searching or sorting algorithm, even in a limited capacity
5. A robust user interface
6. Comprehensive error checking and error recovery mechanisms

The description of the game is as follows:

At the start of the game, ask for the player's name. Then, use a GUI to show the player's name, money (randomly initialised in the range 50-310), health (initialised to 100), and points (0 to begin with).

The window should also contain 5 buttons to access the 4 rooms of the game and the shop.

The player has an inventory, including the following items:

- Weapon - each has a name, damage, and price
They can be used to fight enemies in rooms
- Key - each has a code (either 0 or 1) and price
They can be used to open treasure boxes which contains points

- Armour - each has durability and price
They can be used to reduce the damage of the enemies

The player can visit the shop at any stage of the game to buy/sell items. There are also HealingPads in the shop, which can be bought to increase the player's health by 50.

The user can select to enter any of the four rooms. Each room represents a city with an enemy inside it. The enemies have damage and health. After entering the room, you need to show the description of the room (included in the text file) and the information about the enemy (including name, damage, and health). Then you need to ask the user to choose a weapon from their inventory and whether they want to use their armour. The user should be able to see their inventory at any stage of the game (add a button for that on your GUI). After choosing the weapon and whether to use armour, you need to decide whether the user can defeat the enemy. An armour divides the damage of the enemy by its durability. If the player wins, they get some points (data is in the room), and they can collect the items and money in the room (make sure to delete everything in the room afterwards by amending the text file and show an appropriate message if the player tries to enter the room again). If the user losses, you need to leave the room after updating the enemy's health and set player's health to 0. Also reduce the player's points by 2. Regardless of its outcome, the player loses their weapon and armour after the combat, and the inventory gets updated.

The player wins the game if they reach 10 points and loses if it falls below 0. In addition, the treasure boxes hidden in some rooms contain points which can only be opened with the correct key.