Assignment 2 - Part 2 - COMP2152

Part 2 - Explain your Code (50%)

Write the answers in the doc provided and save and submit Part 2 as a PDF. You do not have to write or submit any new code for this section. I want you to understand how you could work on a piece of code that already exists (as is the case when working with Open Source code), and how to improve it. You can **type** in your answers *or* complete it **by hand** (handwriting MUST be legible) and then scan your submission.

1. How have we used classes for our project to reuse code?

   Using the character class, we can make use of the same code for the hero and monster classes without defining the code in every instance. Also, we can use this to easily add more character types and variation. And using classes an OOP principles we can make more efficient use of our code.

2. Provide 1 line of code, as one of many examples, where code is shared between the monster class and the hero class?

```
@property
def combat_strength(self):
    return self.__combat_strength
@combat_strength.setter
def combat_strength(self, value):
    self.__combat_strength = value
```

   This portion of code is shared between the hero and monster class to access their character values.

3. What is the benefit of using complex getters and setters?

   You can set more complex behaviors or perform special actions when they are invoked. Such as, increased security, debugging, time delay.

4. If we didn't use try-except blocks, what would be the problem?

   The program would be at risk of crashing frequently due to errors, using try-except blocks we can limit the effect the errors have on our program to make it more reliable and robust.

5. How could we use the name of the **operating system or the version of python** in your game to prevent errors? Choose just 1 of the above.

I… don’t know how that can prevent errors? Maybe if, it is used to check system compatibility, but if it’s not compatible then the program will simply not run anyways, so technically there will be no errors if it doesn’t run?

6. What’s another piece of information we could save inside of the save.txt file? (Remember, we load this information every time we start a new game, so that we can keep track of all of the games you have played so far.)

We could use the first line of save.txt to keep track of wins/losses, total combat encounters, star count, average statistics.
E.g.: ‘| 10/5 | 26,15 | 9 stars | 66% win-rate |’

7. **New Feature:**
    a. Think of **1 new feature** you can add to the game that could use list comprehension and nested conditional statements. For now just write 1 sentence that describes the feature:

    Now add your new feature description here:
    A) A trader found in the dream realm to exchange items.
    B) Add another character which can affect the quality of your equipment. (Could use the stars * as a currency?)(I just want to manipulate the items and their effects)

Examples:

Below are the examples to show you that you can be very creative, and you should have fun with this exercise. You must use an idea that is NOT directly on the list below:

eg a) Add another monster so that the hero can fight 2 monsters at once

eg b) Create a digital board game, that shows the hero moving around to different towns on a map

eg c) Add a dog that runs in front of the hero and discovers features about the world

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b. Give the new feature you created a short 2-3 -word a title:

Now write your Title here:
___A) Dream Trader_____ _____B) Wandering Blacksmith_____

Examples:

eg a) Multiple Monsters
eg b) Roam Towns
eg c) Dog Scout

c. Explain how you could implement the idea you chose. You must explain how you would use both of the control structures below. Draw a diagram, map, sketch for each (you can use any software for this, e.g. Draw.io). You don't have to match the style of diagram I have here, just use a visual to describe your idea. Note, you must have loops and conditional statements diagrammed below as needed:

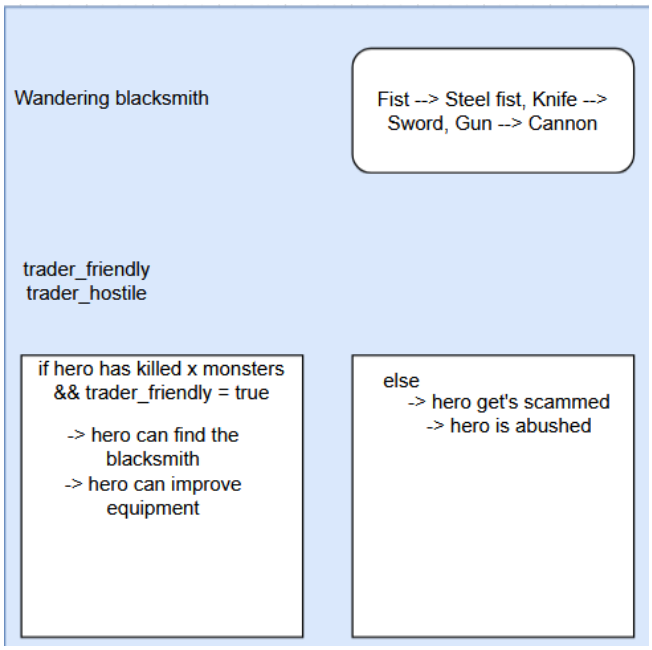
i. **Using a list comprehension loop**

I don't comprehend what 'list comprehension loop' is supposed to entail. When I start developing the idea, I might understand the interpretation? I could make use of loops probably, but they might be useless.

ii. **Using nested conditional statements**

If the hero has successfully hunted 3 monsters, then in following encounters the wandering blacksmith may appear. He can increase the quality of gear/weapons. I could also use hidden conditions for a special event?

Use associative arrays attached to the existing weapons to track modified equipment with special characteristics.



Example:

eg b) Roam Towns

i. **Using a list comprehension loop**
Every time in the loop, move one square in 1 direction, (N, E, S, W). Have a variable that keeps track of the Hero's location by saving values of the board. We can have 2 nested for loops and store the map as a 2D array.

Eg.
Hero location is currently at Row 3, Column D.
Town 2 location is at Row 4, Column G.
Town 1 location is at Row 1, Column A .

Diagram:

	A	B	C	D	E	F	G	H	I
1	(town1_loc)								
2									
3				(player_loc)					
4							(town2_loc)		

ii. **Using a nested Conditional Statement**
If the hero is in Town 2, **then** allow the hero to buy armor but not sell.

Otherwise, the hero can sell armor but cannot buy.

Create an array of armor options available in Town 2. He could also trade some of his loot based on the value of the loot he has.