

Task 2 (Harry Potter Battle)

By: Maryam Abdou Abdelfattah

Wizard Class:

Is the parent class and has the common features between the two wizards (health, energy and common spells).

Has two functions:

- 1- readingText function: reads the spells text file and put each spell in its right dictionary. If the first letter in each line in the text file is 'A' then the spell will be included in CommonSpell dictionary which has the common spells between the two wizards. If the first letter is 'H' then the spell will be included in spells_Harry which has the spells of Harry Potter. If the first letter is 'V' then the spell will be included in spells_Voldemort which has the spells of Voldemort.
- 2- input function: take the spell of each wizard and get the power of each spell from the dictionary.

Harry Class:

Is the child class of Wizard class and has the health and energy of Harry and also has the dictionary of Harry's spells.

Since the health and energy are private, the class has the functions setter and getter for both of them.

Voldemort Class:

Is the second child class of Wizard class and has the health and energy of Voldemort and also has the dictionary of Voldemort's spells.

Since the health and energy are private, the class has the functions setter and getter for both of them.

Main:

It has the algorithm of the game. It first calls the `readingText` function from the `Wizard` class and get the spells in the dictionary.

It starts the game with a while loop until one of the wizards has zero health or less, then it calls the `input` function from the `Wizard` class and gets the spell of each wizard and returns the power of each spell.

If the wizard used a wrong spell or used the shield more than 3 times, he will be asked to enter the spell again.

It calculates the energy of each wizard by decreasing from their energy the power of their spell.

It also calculates the health of each wizard by decreasing from their health the result of subtracting the power of the two spells.

After each spell, the health and energy of each wizard is printed.

At the end of the game, it will print the winner who has not zero health or less.

Sample run:

```
Enter the two spells (harry then voldemort):
AvadaKedavra Imperio
      Harry      Voldemort
Health : 100      20
Energy : 400      480
Enter the two spells (harry then voldemort):
Reducto sheild

      Harry      Voldemort
Health : 100      20
Energy : 340      480
Enter the two spells (harry then voldemort):
Nebulus Imperio
      Harry      Voldemort
Health : 100      0
Energy : 300      460
      Harry is the winner..
```