Harry Potter Battle

It was used in these project oop principles as there is super class with two subclasses and all attributes are private

Common Class:

It is a superclass That include the common attributes and methods for each wizard. It was declared inside its constructor the health ,energy and shield as private instance attributes which are initialized With their default values for each attribute End inside it method said common invoked and it is used to read the common spells name and power from the text file and put it inside dictionary called common . As all attributes are private , setters and getters are used. Also there is a method called set element which used to add element to the dictionary.

Harry Class:

It is a subclass that inherit the Common class and inside it's constructor a method called set Harry was invoked as it is used to read the name and power of Harry's spells and add them to the dictionary through set element method.

Voldemort Class:

It is a subclass that inherit the Common class and inside its constructor a method called set Voldemort was invoked as it is used to read the name and power of Voldemort's spells and add them to the dictionary through set element method.

Main:

Inside Main two objects was created one of Harry class and one of Voldemort and inside while loop that check if both Wizard's health are greater than 0. Inside the loop the spell's name was read as input and there is a while loop that check if these names is in the dictionary or not and if not the user write the names again Then the cases for which wizard's spell is more powerful starts by using if condition. First case, if the two spells are equal in power then their health will not affected but their energy will decrease by the spell's power. Second case, if the power of Harry's spell greater than Voldemort's spell but Voldemort's spell power not equal zero or equal 0 but he has no shields then Voldemort's health will be decreased boy the difference between the two spell's power and Harry's health will not be affected and each one's energy will be decreased by the power of his spell . Third case is the same as second but power of Voldemort's spell greater than Harry's spell but Harry's spell power not equal zero or equal 0 but he has no shields so Voldemort's health will not be affected and Harry's health decrease and both energy decrease as well. Then it followed by two if statements that check if the spell's power equal 0 but the wizard still have shields so his energy and health will not be affected by the other spell's power. Then there is if statement to handle if difference in spell's power greater than health it will be still equal 0 , all these conditions are checked each round untill one them has 0 health , After while loop, There is if statements that check whose the winner by checking the wizard's health.