Python OOP – Object Oriented Programming for Beginners

Mini Project

Inheritance - Attributes

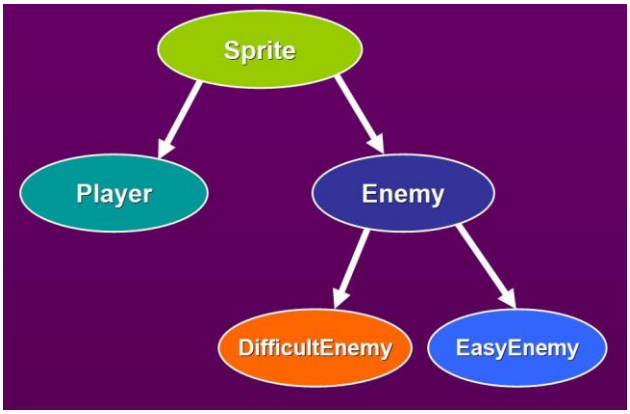
Project Description:

You just signed up for a game development competition and now you need to **represent sprites using Inheritance**. But... wait a minute! Your team has made mistakes in the code and the inheritance is not working correctly. The due date is tomorrow. You need to save your team from being disqualified.

- Your job is to **fix the errors in the existing code**.
- These are the requirements for the program:
  - Enemy must be a **subclass** of Sprite.
  - Player must be a **subclass** of Sprite.
  - Enemy must be a **superclass** of DifficultEnemy and HardEnemy.
- Submit the working code to complete this mini project.

Tip: remember that subclasses inherit attributes from their superclasses.

The relationship between the classes can be illustrated like this:



This is the code that your team wrote. When you run the program, **it throws many errors** and the **inheritance is not well defined**. Check for missing parameters, wrong syntax, incorrect inheritance, and other errors in the code. Run the program in your code editor or in IDLE and fix each one of these errors.

```
class Sprite:
    def __init__(self, x, y, imgFile, speed, lifeCounter):
        self.x = x
        self.y = y
        self.imgFile = imgFile
        self.speed = speed
        self.lifeCounter = lifeCounter

class Enemy(Sprite):
    def __init__(self, x, y, imgFile, speed):
        __init__(self, x, y, imgFile, speed, 5)
        self.message = "I'm here to protect my master"

class Player(Enemy):
    def __init__(self, x, y, imgFile, speed):
        Sprite.(self, y, imgFile, speed, 6)
        self.speed = 56

class DifficultEnemy(Enemy):
    def __init__(self, x, y, imgFile):
        Enemy.__init__(self, imgFile, 80)

class EasyEnemy(Player):
    Enemy.__init__(self, x, y, imgFile, 40)
    def __init__(self, x, y, imgFile):
        self.lifeCounter = 1
```

Note: You will be able to check your solution with a sample answer as soon as you submit your mini project.