

## Pokemon Problem

Below is a Pokemon class. Please read over it so you understand how it works before turning to the next page.

```
public class Pokemon {  
  
    private double catchRate;  
    private double attackPower;  
    private int weight;  
    private int level;  
  
    public Pokemon(int w, int lev) {  
        weight = w;  
        level = lev;  
        catchRate = Math.random()*.25;           //catch rate between 0 and 25% of the time  
        attackPower = Math.random()*10 + 60;      //attack rate between 60 and 70  
    }  
  
    public void gainWeight() {  
        weight *= 1.05; //has the Pokemon get 5% heavier  
    }  
  
    public void workout() {  
        weight *= 0.95; //working out causes the Pokemon to lose 5% of its weight  
    }  
  
    public double getWeight() {  
        return weight;  
    }  
  
    public double getCatchRate() {  
        return catchRate;  
    }  
  
    public double getAttackPower() {  
        return attackPower;  
    }  
  
    public int getLevel() {  
        return level;  
    }  
  
    public void levelUp () {  
        attackPower *= 1.05; //5% attack bonus for leveling up  
        level++;  
    }  
  
    public void cry() {  
        Syso("POKEMON!");  
    }  
}
```

Implement a Pikachu class that **is a** Pokemon. It should have one new field - a boolean that keeps track of whether Pikachu has the light ball or not (it effects the attack power of Pikachu). This class should have one constructor with three parameters - the weight (int) of the Pikachu, the level (int) of the Pikachu, and whether the Pikachu holds the Light Ball or not (boolean).

The methods of the class should implement the following characteristics by overriding methods inherited from the Pokemon class:

- The catch rate of a Pikachu should be half the rate of a standard Pokemon
- The attack power of a Pikachu should be the same as a normal Pokemon, except for two things: a Pikachu weighing over 50 pounds loses 5 points in attack power; a Pikachu with the light ball doubles its attack power (the 5 point reduction would come before the power up is applied)
- When a Pikachu levels up, it should level up like a normal Pokemon, but also it should gain a little weight, and then print out a celebratory message that includes the Pikachu's current level.
- The cry of the Pikachu should be changed to have the Pikachu's name in it.