

## Junior Knights Homework: Pokemon Battles!

In a basic battle between two Pokemon, the two take turns attacking each other until one dies (when health goes to 0). Each Pokemon starts with a number of health points and a list of weapons they can use on their attack. The amount of damage they cause their opponent on an attack varies based on the weapon used, the opponent's defense and some randomness. We can model this sort of scenario by creating a Pokemon class. At a bare minimum, the Pokemon class ought to have the following instance variables:

```
private String name;
private int health;
private ArrayList<Weapon> weapons;
```

The Weapon class can range from being simple to extremely complicated. Here is an example of instance variables and instance methods in a simple Weapon class:

```
private String weaponName;
private int maxDamage;

private Weapon(int myMaxDamage);

// Returns a random int in range [0..maxDamage].
private int damage();
```

Write a weapon class and then a short main to test it.

Then, write a Pokemon class and write a main where you hard-code two Pokemon objects and simulate a battle. Here are the instance methods your Pokemon class should have:

```
// This Pokemon attacks other in a single attack.
public void attack(Pokemon other);

// Returns true iff this Pokemon is alive.
public boolean isAlive();

// Simulate a full battle between this and other where this
// attacks first and then the two alternate attacking until
// one dies. If this Pokemon wins the battle, true is returned,
// otherwise false is returned.
public boolean battle(Pokemon other);
```

This listing of methods is a bare minimum. Feel free to add what you like and then write a main that calls these methods appropriately to simulate a battle between two Pokemon!

