⭐ Vertebrate


```java
public class Vertebrate {
    private String commonName;
    private String genus;
    private String species;
    private boolean isEndangered;

    public Vertebrate(String name, String g, String s, boolean endangered) {
        commonName = name;
        genus = g.substring(0,1).toUpperCase() + g.substring(1,g.length());
        species = s;
        isEndangered = endangered;
    }

    public void printScientificName() {
        System.out.println("Scientific name: " + genus + " " + species);
    }

    public void setEndangeredStatus(boolean newStatus) {
        isEndangered = newStatus;
    }
}
```

Bird


```java
public class Bird extends Vertebrate {
    private String favoriteFood;
    private String habitat;
    private String color;

    public Bird (String name, String g, String s, boolean endangered,
                 String f, String h, String c) {
        super(name, g, s, endangered);
        favoriteFood = f;
        habitat = h;
        color = c;
    }

    public String getHabitat() {
        return habitat;
    }

    public void setFavoriteFood(String newFood) {
        favoriteFood = newFood;
    }
}
```

Penguin

```java
public class Penguin extends Bird {
    private boolean canFly;
    private boolean canSwim;
    private int minUnderwater;

    public Penguin(String name, String g, String s, boolean
                   endangered, String f, String h, String c, int min) {
        super(name, g, s, endangered, f, h, c);
        canFly = false;
        canSwim = true;
        minUnderwater = min;
    }

    public int getMinUnderwater() {
        return minUnderwater;
    }

    public void printMinUnderwater() {
        System.out.println("I can stay underwater for " +
                           minUnderwater + " minutes!");
    }
}
```


Hummingbird


```java
public class Hummingbird extends Bird {
    private String beakType;
    private int wingFlapsPerSecond;

    public Hummingbird(String name, String g, String s,
                       boolean endangered, String f,
                       String c, String h, String b, int w) {
        super(name, g, s, endangered, f, h, c);
        beakType = b;
        wingFlapsPerSecond = w;
    }

    public void setWingSpeed(int newSpeed) {
        wingFlapsPerSecond = newSpeed;
    }

    public String getBeakType() {
        return beakType;
    }
}
```

Hannah Pang
AP Computer Science 1°