

```

1 package club.westcs.biome;
2
3 import java.util.Random;
4
5 public abstract class Animal { // abstract means there will never be just an animal
6     //you can also have abstract methods
7     //methods without boddies that will be filled in later
8
9     //Attributes
10    public static int population = 0;
11    protected boolean alive, gender;
12    protected int hunger, lifeSpan;
13    protected Random rand;
14
15    //Constructor
16    public Animal() {
17        rand = new Random();
18        population++;
19        alive = true;
20        gender = rand.nextBoolean();
21        hunger = rand.nextInt(51) + 50;
22        lifeSpan = rand.nextInt(11) + 10;
23    }
24
25    //Methods
26    public void stillAlive() {
27        this.hunger -= rand.nextInt(6) + 5;
28        if(this.alive && (this.hunger <= 0 || this.lifeSpan <= 0)) {
29            setAlive();
30        }
31    }
32
33    public boolean isAlive() {
34        return alive;
35    }
36
37    public void setAlive() {
38        if(this.alive) {

```

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39         this.alive = false;
40         population--;
41     }
42 }
43
44 public int getHunger() {
45     return hunger;
46 }
47
48 public void setHunger(int hunger) {
49     this.hunger += hunger;
50     if(this.hunger > 100) {
51         this.hunger = 100;
52     }
53 }
54
55 public int getLifeSpan() {
56     return lifeSpan;
57 }
58
59 public void setLifeSpan() {
60     if(this.hunger < 25) {
61         this.lifeSpan -= rand.nextInt(3);
62     }
63     this.lifeSpan--;
64 }
65
66 public boolean isGender() {
67     return gender;
68 }
69
70 public abstract Animal baby(Animal other);
71
72
73 public abstract Animal life(Animal other, int food);
74
75 }
76
```