1. Fill in some code for a `Cat` class, following guidelines given through comments.

```java
public class Cat {
    // instance variables
    private String name;
    private int age;
    private int lives; // number of lives remaining

    // constructor
    public Cat(String x, int y, int z) {
        name = x;
        age = y;
        lives = z;
    }

    // getAge(): Returns the age of the cat
    public int getAge() {
        return age;
    }

    // birthday(): increases the cat’s age by 1
    public void birthday() {
        age++;
    }

    // kill(): For cats that have at least one life remaining,
    // decreases the number of lives by 1; no effect
    // on dead cats (i.e., cats with 0 lives).
    public void kill() {
        if (lives > 0)
            lives--;
    }
}
```

2) Write client code that uses the `Cat` class:

a) Instantiate a `Cat` object with name “Luca,” age 11, with 9 lives and assign it to a variable named `myCat`

```java
Cat myCat = new Cat(“Luca”, 11, 9);
```

b) Suppose you have two cat objects `cat1` and `cat2`. Print the average age of these cats.

```java
System.out.println((cat1.getAge() + cat2.getAge()) / 2.0);
```
1. Fill in some code for a `Cat` class, following guidelines given through comments.
   ```java
   public class Cat {
       // instance variables
       private String name;
       private int age;
       private int lives;  // number of lives remaining

       // constructor
       public Cat(String x) {
           name = x;
           age = 0;
           lives = 9;  // start with 9 lives
       }

       // birthday(): increases the cat’s age by 1
       public void birthday() {
           age++;
       }

       // kill(): For cats that have at least one life remaining,
       // decreases the number of lives by 1; no effect
       // on dead cats (i.e., cats with 0 lives).
       public void kill() {
           if (lives > 0) {
               lives--;
           }
       }

       // getLives(): Returns number of lives remaining for this cat
       public int getLives() {
           return lives;
       }
   }
   ```

2) Write client code that uses the `Cat` class:
   a) Instantiate a `Cat` object with name “Tuna” and assign it to a variable named `myCat`
   ```java
   Cat myCat = new Cat("Tuna");
   ```

   b) Suppose you have two cat objects `cat1` and `cat2`. Print the total number of lives of these cats.
   ```java
   System.out.println(cat1.getLives() + cat2.getLives());
   ```