

The Umbrella class models an umbrella that has a *color* and is either *open* or *closed*. The color is given as a String parameter in the constructor, and the boolean instance variable *opened* is initialized as *false* during construction. On the left, write a class description for Umbrella with a constructor and four methods: *getColor()*, *isOpen()* (which returns true or false, depending on the state of the umbrella), and *open()* and *close()*, which change the status of the umbrella object.

On the right, write an *UmbrellaTester* class that tests the constructor and every method in the Umbrella class.

```
public class Umbrella
```

```
{
    // instance variables
    private String color;
    private boolean opened;
    // constructor
    public Umbrella (String color) {
        this.color = color;
        opened = false;
    }
    // methods
    public String getColor()
    {
        return color;
    }
    public boolean isOpen()
    {
        return opened;
    }
    public void open()
    {
        opened = true;
    }
    public void close()
    {
        opened = false;
    }
}
```

accessor methods

mutator methods

or
 if (opened == true)
 return true;
 else
 return false;

```
public class UmbrellaTester
```

```
{
    public static void main(String[] args)
    {
        Umbrella u1 = new Umbrella ("red");
        Umbrella u2 = new Umbrella ("striped");
        System.out.println (u1.getColor());
        System.out.println (u1.isOpen());
        System.out.println ("Expected red, false");
        u2.open();
        System.out.println (u2.getColor());
        System.out.println (u2.isOpen());
        System.out.println ("Expected striped, true");
        System.out.
        u2.close();
        System.out.println (u2.isOpen());
        System.out.println ("Expected false");
    }
}
```