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Questions

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Processes and threads 2

3/3 points (graded)

Suppose we run main in this program, which contains bugs:

```
public class Moirai {  
    public static void main(String[] args) {  
        Thread clotho = new Thread(new Runnable() {  
            public void run() { System.out.println("spinning"); };  
        });  
        clotho.start();  
        new Thread(new Runnable() {  
            public void run() { System.out.println("measuring"); };  
        }).start();  
        new Thread(new Runnable() {  
            public void run() { System.out.println("cutting"); };  
        });  
    }  
}
```

How many new Thread objects are created?

✓ Answer: 3

Explanation

One is assigned to variable `clotho`. The other two are not assigned to a variable.

How many new threads are run?

✓ Answer: 2

Explanation

The code calls start on the first two threads. But the third thread is never started, so it will not run.


What is the maximum number of threads that might be running at the same time?

✓ Answer: 3

Explanation

The initial thread running `main` plus the two new threads that were started.

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Processes and threads 3

2/2 points (graded)

Suppose we run main in this program, which demonstrates two common bugs:

```
public class Parcae {  
    public static void main(String[] args) {  
        Thread nona = new Thread(new Runnable() {  
            public void run() { System.out.println("spinning"); }  
        });  
        nona.run();  
        Runnable decima = new Runnable() {  
            public void run() { System.out.println("measuring"); }  
        };  
        decima.run();  
        // ...  
    }  
}
```

How many new Thread objects are created?

✓ Answer: 1

\\()

Explanation

We create only one Thread, assigned to variable `nona`.

How many new threads are run?

✓ Answer: 0

\\()

Explanation

The line `nona.run()` is a bug: calling `run()` on a Thread does not run the code in a new concurrent thread. It uses the same thread, the initial thread running main. And we call `run()` on Runnable `decima`, which also uses the same thread. Perhaps the author meant to create a new Thread with that Runnable instead of running it directly.

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