CS455 – Lab Session 07

NAMAN SHAH
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Agenda

• Quiz-5 : review
• HW2 Due
Quiz-5 review

1. One way of coping with thread-safety issues for a data structure that needs to be returned from a method is to perform a deep-copy on that structure and return a reference to the copy. [True/False]

2. Suppose the `TCPReceiver` class from your first programming assignment implemented the Runnable interface. Is the following constructor safe? [True/False]

```java
public TCPReceiver(Socket socket){
    this.socket = socket;
    new Thread(this).start();
}
```

3. In the snippet below, `vector` is an instance of `java.util.Vector`. The snippet is thread-safe even when `vector` is accessed by multiple threads concurrently since all methods of the class `java.util.Vector` are synchronized. [True/False]

```java
for (int i=0; i < vector.size(); i++) {
    doSomething(vector.get(i));
}
```

4. Synchronized collections (instantiated by `Collections.synchronizedX()` factory method) provides thread-safe compound operations. [True/False]
Quiz-5 review

5. Can this snippet result in a ConcurrentModificationException?

```java
List<Widget> widgetList = Collections.synchronizedList(new ArrayList<Widget>);
...
for (Widget w: widgetList)
    dosomething(w);
```

[True/False]

6. Lock striping a data structure increases the number of threads that can be active in that data structure concurrently.

[True/False]

Quiz-5 review

7. For a lock-striped data structure, locking the data structure for exclusive access involves the acquisition of just 1 lock.

[True/False]

8. ConcurrentHashMap is an example for a data structure, which provides higher concurrency for critical operations at the expense of strong consistency for less critical operations.

[True/False]
Quiz-5 review

9. Synchronizers are objects that coordinate the flow of other threads based on the internal state of that synchronizer. [True/False]

10. Once a Latch reaches its terminal state, it can be reset. [True/False]

Information

• HW2-PC
  • DUE DATE: Wednesday March 8th, 2017 @ 5:00 pm
• HW1-grades
  • Grading HW1-WC
  • Grades will be out by tomorrow
  • Announcement on Canvas
QUESTIONS?