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|  | 1. **Implement three classes: Storage, Counter, and Printer.**   **The Storage class should store an integer.**  **The Counter class should create a thread that starts counting from 0 (0, 1, 2, 3 ...) and stores each value in the Storage class.**  **The Printer class should create a thread that keeps reading the value in the Storage class and printing it.**  **Write a program that creates an instance of the Storage class and sets up a Counter and a Printer object to operate on it.** |
|  | **Modify the program from the previous exercise to ensure that each number is printed exactly once, by adding suitable synchronization.**   1. **Write a program TestThreadMany.java that takes a positive integer n and creates exactly n threads that print out their own name. Here is a sample execution.**   **Enter number of threads you want? 4**  **Hello, I am Thread #1**  **Hello, I am Thread #2**  **Hello, I am Thread #3**  **Hello, I am Thread #4**   1. **Write a program to print "Good morning" and "Welcome" continuously on the screen in Java using threads.** 2. **Add a step method in the welcome thread of question 3 to delay its execution for 200ms.** 3. **Demonstrate gerPriority() and setPriority() methods in Java threads.** 4. **How do you get the state of a given thread in Java?** 5. **Kind of hospital simulation in which we have to control the accesses to each singular room.**   **Doctors can enter the room one at the time, and can enter only if no visitors are in.**  **A visitor, instead, can only access the room if no doctors are in it and a max of 4 more visitors are in.**   1. **Synchronized code segment synchronized(this)** 2. **Synchronized code segment synchronized and synchronized modified static method** 3. **Comprehensive exercise, simulating concurrent bank deposit and withdrawal** |
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