Lab 7

Part I: Producer and consumer problem in Java

A producer-and-consumer java implementation is given on blackboard. Read, understand the code, and run it.

Part II: Thread-safe data structure

(1) Download BoundedIntStack.java from Canvas, make BoundedIntStack thread-safe using condition variable(s).

(2) Create multiple threads to push/pop integers into/from BoundedIntStack concurrently.

(3) Compare you thread-safe BoundedIntStack with the given code and examine:

Why change "if" into "while", compare the results?

Uncomment the system.out.println() in Main.java, run it and see the result:

Why do you see integer popped before pushed?

How can you fix this, i.e. print the information in which an integer is always pushed first, and then popped?