Lecture 8.3
Synchronized Blocks

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Synchronized blocks

- A Java synchronized block:
  - Has only one thread accessing the block at a time
  - Is reconciled with memory at start and end of block
    - Allows compiler not to write values back to memory during block (unlike volatile)
    - Implemented with locking

- Easy abstraction
  - Locking and unlocking performed implicitly

- Has performance/parallelism implications
  - A synchronized block is a single lane road that parallel threads go through one at a time

See SynchronizedWorks.java
Synchronized Danger!!

- Synchronized only applies to an object (or class)
  - Frequent mistake is to apply to an object and assume it will synchronize all objects of this class.
- This type of error quite difficult to find and debug

See SynchronizedBug.java