

Slide 1

Parallel Programming in Java

• Java supports multithreaded (shared-memory parallel) programming as part of the language — synchronized keyword, wait and notify methods of Object class, Thread class. Programs that use the GUI classes (AWT or Swing) multithreaded under the hood. Justification probably has more to do with hiding latency than HPC, but still useful, and latest version (1.5) includes much new library stuff.

Aside: If you're curious about thread use in a program that uses AWT or Swing classes, the following line will print info about threads:

Thread.currentThread().getThreadGroup().list();

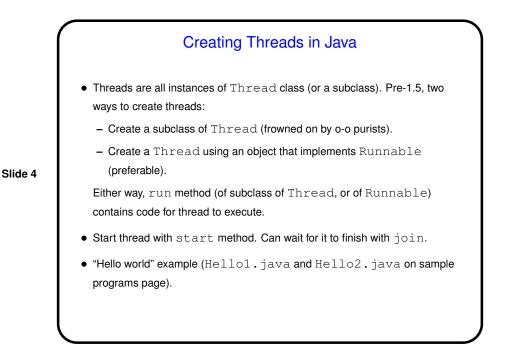
 Java also provides support for forms of distributed-memory programming, through library classes for networking, I/O (java.nio), and Remote Method Invocation (RMI).

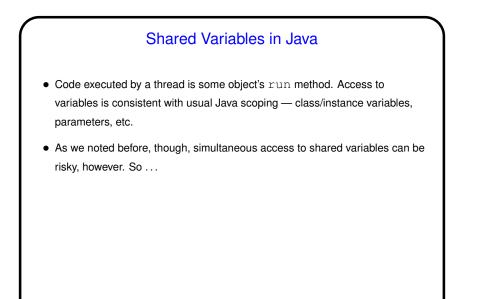
Slide 2



- Easy answer: Like a regular Java program. (In fact, any program with a GUI ...)
- Programming model is somewhat like that of OpenMP all threads share a common address space — but programmer is responsible for creating threads, providing synchronization, etc.

Slide 3





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