Lecture 8.1
Concurrent Java

EN 600.320/420
Instructor: Randal Burns
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A Basic Concurrent Program

- **Objects/Classes**
  - Runnable
  - Thread

- **Methods**
  - Runnable.run()
  - Thread.start()

See SimpleConc.java
Thread versus Runnable

- Multiple ways to create threads
  - Implement Runnable interface
  - Inherit from/extend thread

- Runnable: is an interface
  - Allows for inheritance from other classes

- Thread is a class
  - Cannot extend Thread and another class, e.g. Applet
  - Should only inherit when you want to extend base class’ functionality

- Use Runnable: it’s preferable
Anonymous Objects?

- Simple example uses anonymous object
  - No performance value
  - Less code, but of little simplifying value
    - RB: shorter code is often not better code
    - E.g. compilers are really good at removing unused names, parsing {}’s, etc

- Thread object variables allow for the manipulation of thread objects
Awaiting thread completion

- Join() a thread
  - Await for it to finish
  - Return immediately if already finished
  - Finished threads are not GCed, because of the reference

See VolatileWorks.java