Recitation 6

HW2 – Due March 4th

- HW2 output format must be followed exactly for full credit.
  - Note that there are some things that print unpredictable values, such as a measured quantity of time. The exact digits of those don't need to match (since it will vary each time the program is run), but the format of the printed number does.
- Please see the example output section in the HW2 assignment document.
- Assignment report should be a separate PDF file
  - DO NOT include it in the README.md
  - 250-300 words (Check assignment pdf to be sure)
- Read section 3 of your assignment pdf for details about the report

HW2

- System.nanoTime()
- Random Number Generators
- Volatile keyword

Random Number Generators

- Properties
    - The values generated are uniformly distributed over a definite interval.
    - Impossible to guess the future values based on current and past values.
- Helpful information: javatpoint.com/how-to-generate-random-number-in-java

Syntax

- import java.util.Random;

```java
Run | Debug
public static void main(String[] args){
    Random rand = new Random();

    for(int i = 0; i < 10; i ++){
        System.out.println("Random Value Generated: " + rand.nextInt(bound: 50));
    }
}
```

`volatile` keyword

- Tells the java compiler to never cache a variable, i.e. to always store it in main memory.
- Slower, but safer in some multi-threading contexts.

```
int x;
volatile int y;
```

SSH (Prep for HW3)

- Secure Shell Network Protocol
- ssh [options] [user@]hostname
- Examples:
  - ssh user@hostname (all you need)
  - ssh -p 2222 user@hostname (specify port)
  - ssh -v user@hostname (verbose; useful for debugging connections)
- Can use VSCode, IntelliJ or your terminal to SSH to remote
- Can also use SSH Clients like Putty (Windows) to SSH + SCP (file transfer)

Networking Assignment (HW3)

- Please configure your environment for this assignment early
- Need to be able to run your program on 3 CS machines
- SSH will be very useful for this project, please use infospaces and OH as a resource to help
- To find a list of machines to SSH into: https://www.cs.colostate.edu/machinestats/

Completion Activity

- Set up your environment so you are able to SSH into multiple machines at once