CS 1114 Introduction to Java

(Lab 1)

TA: Maryam Kamvar

mkamvar@cs.columbia.edu

Homework 0 compiling and running a java program

- http://home.janak.net/cs10034/homeworks/hw0/HelloWorld.java
- Connect to your cunix account (sometimes referred to as a Unix shell)
  - ssh to cunix.columbia.edu
  - Do we need a brief Unix tutorial?
- Open an emacs file called HelloWorld.java (careful with capitalization)
  - In your unix shell, Go to Setup => SSH Forwarding => Display Remote X Applications on Local X Server should be checked.
  - Go to Setup => Save Setup => Save
  - Disconnect, and reconnect. Have a local X server running.
  - In your unix shell type emacs HelloWorld.java &
- Copy-paste code from the internet to the blank emacs file
- Save the file by pressing Ctrl-X Ctrl-S (or use the menu)
- Compile your code.
  - In your unix shell, type **javac HelloWorld.java**
- What does Compilation mean? What does it do? (.class file)
- Run your program
  - In your unix shell type **java HelloWorld**

HelloWorld - The details

```
/**
 * CS1004
 * HW#0 Sample Code
 *
 * @author Janak J Parekh (janak at cs
      dot columbia dot edu)
 */
public class HelloWorld {
  /**
   * Print and quit.
   */
  public static void main(String[] args) {
    System.out.println("Hello world!");
  }
}
```

Structure of a program _{the main keywords}

Comments, Classes, Methods

- Comments
  - /* */
  - //
- Classes
  - Every file in Java is a class
  - Constructors (will come later…)
- Methods
  - Written by you
  - Written by the Java people for you to use

Variables and Statements

- Variables
  - Declaration
    - Just specify the type
  - Definition / initialization
    - Specify the value
- Statements
  - Any "action" in a program.
  - ;
  - Declarations of variables are a statement
  - Methods, and declarations of classes are not a statement. "The { rule"

Your first error

- Lets make an "error"
  - "Forget" a semi colon after a semicolon
  - "Accidentally" put an semicolon after something that's not a statement
  - "Forget" to close a parenthesis
  - Etc etc.
- Syntax errors versus logic errors

Next time

- Command line input – args
- Brief intro to arrays
- Mathematical operations
- Conversion between data types
- Assignment 1