Announcements

• Read for next time Chap. 2.3-2.10
• Homework (pre or post classwork due)
• Reading Quiz on Blackboard
  – Due beginning of class next time
• Bring laptops if you want starting next time
• Must install Eclipse and Ambient
  – Update if you already have it installed

History of Programming

• Harvard Mark 1
  – 1944, first automatic digital computer in US
  – Grace Hopper - first programmer for Mark 1
  – Still at Harvard

• ENIAC – Eckert and Mauchly
  – 1946, University of Pennsylvania
  – First useable computer

Java

• Developed 1995 by Sun
  – James Gosling and Patrick Naughton
• Simpler than C++
• Rich and LARGE library
• Portable – runs on different platforms
Compiling Java

• Compiler
  – Translator from high-level language (Java) to machine language (JVM – Java virtual machine)
  – Path
    • Use editor to create source file (.java)
    • Compiler
    • Join with class files and library files
    • Result is code for JVM (a running program!)

What can you do with Eclipse?

• Almost everything!
• Editor
• Compiler - Automatically compiles
• Identifies syntax errors
• Runs program
• Output console
• Visualization of files and folders
• Submission of programs

• Question: What is a logic error?

What will we use Eclipse for in CompSci 6?

• Use to write complete java programs
  – Access libraries
• Use as an editor to write text files
  – README – gives info about the program
• Use to write simple methods, then test with APT

APT – Algorithmic Program Testing

• Not a complete java program
  – No main method
• Focus on and solve one small problem
• Rich set of data for testing
• Use Eclipse editor for APT, but cannot run program! Why?
Chap 2 - Java Types and Variables

- Every value has a type:

  ```java
  int number = 6;
  String month = "January";
  FileStream infile;
  Color originalColor;
  ```

Identifiers

- Choose meaningful names for variables, methods and classes
  ```java
  int x = 60; // what does x represent?
  int numberOfDays = 6;
  ```

- Follow rules for identifiers
- Follow conventions for identifiers
- What is the difference?

Assignment Statement

```java
int numberOfDays;
numberOfDays = 6;
```

- numberOfDays is “assigned” the value 6
- OR 6 is stored in memory location for numberOfDays
- Don’t say
  - numberOfDays equals 6!

A Java Program

```java
public class HelloCompSciClass {
    public static void main(String [] args) {
        // display a greeting
        System.out.println("Hello, CompSci 6!");
    }
}
```
About the Java Program

• What is the name of the class?
• What is the name of the method?
• What is printed?
• What does the “;” mean?
• What does “public static void” mean?
• What is “String [] args”?

Classwork Today

• One-Heap Nim
  – Go over solution
  – Prof. Rodger solve in Eclipse

• Write Java Code on paper – finish for homework
  – HingedDoor
  – DivToZero