Announcements

- Read for next time Chap. 1, Chap 2.1-2.2
- Assignment 1
- Reading Quiz on Blackboard
  - Due beginning of class next time
- Bring laptops if you want starting next time
- Must install Eclipse and Ambient
  - See Resources page
  - Update if you already have it installed

What is Computer Science?

- Computer science is no more about computers than astronomy is about telescopes. - Edsger Dijkstra

Scientists and Engineers

- Scientists build to learn, engineers learn to build. - Fred Brooks

- Duke alum
- Chair of UNC’s Computer Science Department
- Turing Award Winner
Computer Science and Programming

- Computer Science is more than programming
  - Called Informatics in many countries
  - Elements of both science and engineering
  - Elements of math, physics, cognitive science, music, art, and many other fields
- To some programming is an art, to others a science, to others an engineering discipline.

What Is Computer Science?

- What is it that distinguishes it from the separate subjects with which it is related? What is the linking thread which gathers these disparate branches into a single discipline? My answer to these questions is simple --- \textit{it is the art of programming a computer.} It is the art of designing efficient and elegant methods of getting a computer to solve problems, theoretical or practical, small or large, simple or complex.

C.A.R. (Tony) Hoare

- Turing Award Winner
- Knighted by Queen Elizabeth

Computer Science is a young discipline

- First computer science department formed in 1962
Young People Can Have a Big Impact

• Who are these people and what did they do at the given age?
  – Shawn Fawning (19 years old)
  – Marc Andreessen (21 years old)
  – Claude Shannon (21 years old)
  – Linus Torvalds (21 years old)
  – Dmitry Sklyarov (26 years old)
  – Tim Berners-Lee (35 years old)
  – Jim Ellis (Duke alum) (23 years old)
  – Richard Stallman (37 years old)
  – Luis Von Ahn (28 years old)
  – Grace Hopper (? Years old)
  – Randy Pausch (30’s)

What is Computer Science?

• Artificial Intelligence
  – Mars Rover
  – Roomba
  – CMU’s Sandstorm

• Animation
  – The Organization of Data, and Searching
  – Google
  – eBay
  – Friendster

• Web
  – computer science
  – Did you mean: computer science

• Amazon
  – Your Store
  – Product Categories
  – Your Account
What is Computer Science?
• Medicine, Genomics

Why is Programming Fun?
• What delights may its practitioner expect as a reward
  – First is the sheer joy of making things.
  – Second is the pleasure of making things that are useful.
  – Third is the fascination of fashioning complex puzzle-like objects of interlocking moving parts.
  – Fourth is the joy of always learning.
  – Finally, there is the delight of working in such a tractable medium. The programmer, like the poet, works only slightly removed from pure thoughtstuff.

Fred Brooks

Problem Solving
• Nim
A Java Program

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”?

Environment we will use

• Eclipse – an Integrated Development Environment
  – Editor
  – Compiler
  – An output console
  – Visualization of files and folders
  – Submission of programs (Ambient)
• See CompSci 6 page for installing on your computer