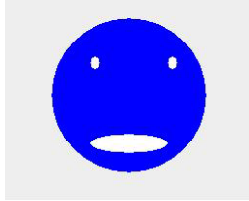


CompSci 6

Programming Design and Analysis



January 14, 2010

Prof. Rodger

Class Information

- Go over information on course web page
- Syllabus, Books, Etc.
- Consulting Hours start Sunday!

Announcements

- Read in text **Java Concepts** for next time
Chap. 1, Chap 2.1-2.2
- Assignment 1
- Reading Quiz on Blackboard
 - Due before class next time
- Bring laptop to class if you have one
- Must install Java, Eclipse and Ambient
 - See Resources page
 - Update if you already have it installed but didn't use it last semester

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 Resources page for installing Java, Eclipse and Ambient on your computer

What is Computer Science?

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



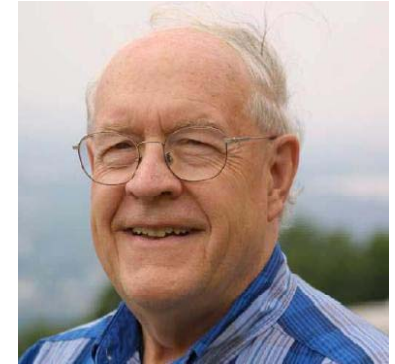
- Computer science is not as old as physics; it lags by a couple hundred years. However this does not mean that there is significantly less on the computer scientist's plate than on the physicist's: younger it may be, but it has had a far more intense upbringing! - Richard Feynman



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.

Computer Science is a young discipline

- First computer science department formed in 1962

PURDUE
UNIVERSITY

1962



Samuel D. Conte

Professor emeritus of computer science and mathematics was the founding department head of the nation's first computer science program. October 1962.

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 --- *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

C.A.R. (Tony) Hoare

- Turing Award Winner
- Knighted by Queen Elizabeth



What is Computer Science?

- Artificial Intelligence



Spirit, Mars Rover



Roomba



CMU's Sandstorm

What is Computer Science?

- Animation



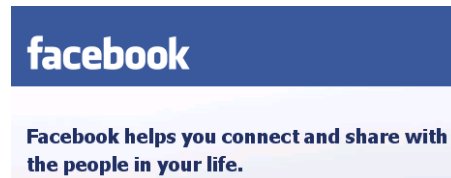
What is Computer Science?

- The Organization of Data, and Searching



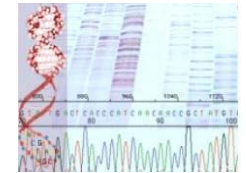
Web

Did you mean: [computer science](#)



What is Computer Science?

- Medicine, Genomics



What is Computer Science?

- Devices



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

Classwork:

- Who are these People?
 - Sort a couple of times, describe 6 people
- Fill out Survey
- Problem Solving: Nim

Who are these People? Computer Science and Informatics

- Who are these people and what did they do?
 - Fran Allen, Mark Andreessen, Tim Berners Lee, Cynthia Breazeal, Sergei Brin, Rodney Brooks, Edsger Dijkstra, Shawn Fanning, Terry Gaasterland, Bill Gates, Shafi Goldwasser, James Gosling, Tony Hoare, Grace Hopper, Steve Jobs, Lydia Kavraki, Jon Kleinberg, Daphne Koller, Jaron Lanier, Robert Metcalfe, Gene Myers, Larry Page, Wayne Pickette, Jennifer Rexford, Ron Rivest, Daniela Rus, Richard Stallman, Guy Steele, Bjarne Stroustrup, Sebastian Thrun, Linus Torvalds, Luis von Ahn
- <http://www.cs.duke.edu/courses/common/people/>

A Java Program

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