Announcements

• See assigned reading on course web page
  – Reading Quiz 1 (RQ1) online on Sakai
  – due by 10am Tues, Jan 13.

• Labs start next week!

• Install course software
  – Try to install before going to lab
  – Can get help (see course web pages)
  – If you get frustrated, get help!

• Today: Introduce Computer Science
Who are the people in this course?

• Check out survey
What is Computer Science?
bit.ly/101S15-0108-01
Who are all these people?
bit.ly/101S15-0108-02
“In fifteen years we’ll be teaching programming just like reading and writing... and wondering why we didn’t do it sooner.”

— Mark Zuckerberg
“Computer science belongs in every public school, right next to biology, chemistry, or algebra.”

— Ashton Kutcher
“I always did something I was a little not ready to do. I think that’s how you grow.”

— Marissa Mayer, CEO, Yahoo!
“When you think about the future... I think it’s very important to be able to learn the language of coding and programming.”

— Chris Bosh
“From phones to cars to medicine, technology touches every part of our lives. If you can create technology, you can change the world.”

— Susan Wojcicki, CEO, YouTube
“Don’t just play on your phone, program it.”

— President Barack Obama
Those quotes are all from Code.org
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
Computer Science is a young discipline

• First computer science department formed in 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.
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
What is Computer Science?

• Artificial Intelligence

Roomba

Spirit, Mars Rover

CMU’s Sandstorm
What is Computer Science?

• Animation
What is Computer Science?

• The Organization of Data, and Searching

Google Images Groups
comtper sceince

Web

Did you mean: computer science

Facebook

Facebook helps you connect and share with the people in your life.

ebay

amazon.com
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
What do Computer Scientists look like?
Computer Science Duke Alums
Go over Course Syllabus - Who is Prof. Rodger?

www.cs.duke.edu/courses/spring15/compsci101
What language will we learn?

- [http://www.python.org/](http://www.python.org/)
- Python is a *multi-paradigm* language
  - Procedural
  - Functional
  - Object-Oriented
- Simple, huge libraries, widely used
- Guido is BDFL
Why is it called Python?

A

B

C

\[ \pi + \text{underwear} - 9.8 \text{ m/sec}^2 \]
What are these logos?

bit.ly/101S15-0108-03
Python code
hello.py

'''
Created on Jan 7, 2015
@author: Susan
'''

print "hello world"
def main():
    filename = "romeo.txt"
    fileToProcess = open(filename)

    count = 0
    for line in fileToProcess:
        words = line.strip().split()
        for word in words:
            if len(word) == 4:
                count = count + 1
                print "count is", count

    if __name__ == "__main__":
        main()