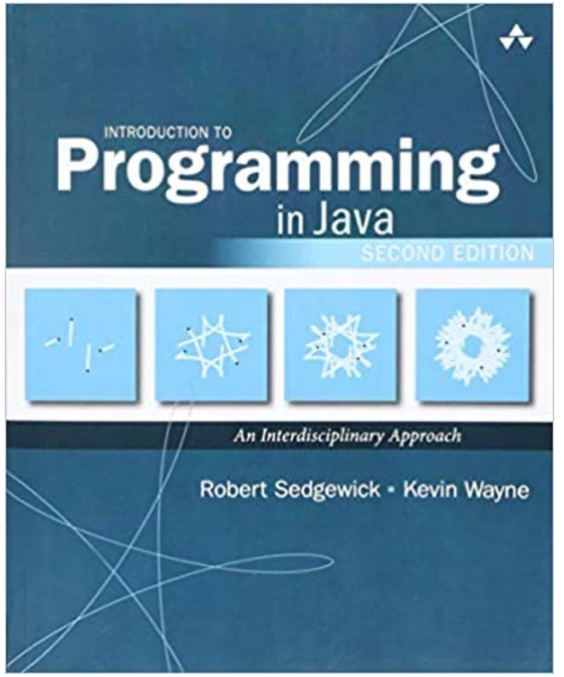
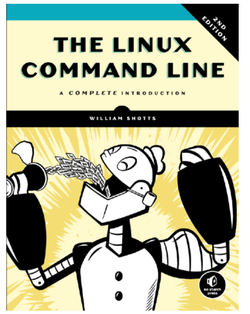
Computer Science 1

CS113

Things to Know

- Textbook
  - Introduction to Programming in Java
    - by Sedgewick & Wayne
- Also
  - The Linux Command Line
    - by Schotts

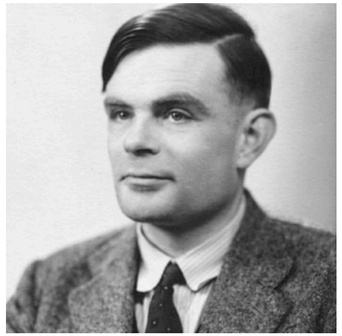




- Not explicitly used but a really handy reference
- Free!

Computer Science 1

- Why?



- Why not just "Intro to Programming"?



Turing (incompleteness), Von Neumann (arch), Rosenblatt (Perceptron), Hopper (PL), Cook (NP)

Class WebSite

https://cs.brynmawr.edu/cs113gt

- Will have all homework, important dates, etc
- Lecture notes —I will usually post slides so if you want to take notes directly on what you are seeing, you can
- Tests — 2 midterms and a final. All will be open book, open notes, open computer, closed mouth.
  - midterms will be “take where you want, but on a given date”
  - final — similar idea.
- Homeworks — approximately weekly
- Lab — Every Tuesday
- Class participation
    - Ask questions, even "I do not understand"
    - I will try to get you up from the desks to do something in every class. Lots of chalkboards

Lab

- If you have timing issues, not a problem to leave somewhat early; but you are expected to come.
- Formally, labs are not due until midnight of the lab date.
  - Think of lab as
    - an office hour in which I am sitting in 231
    - I have given you a task and you should work on that task for 80 minutes

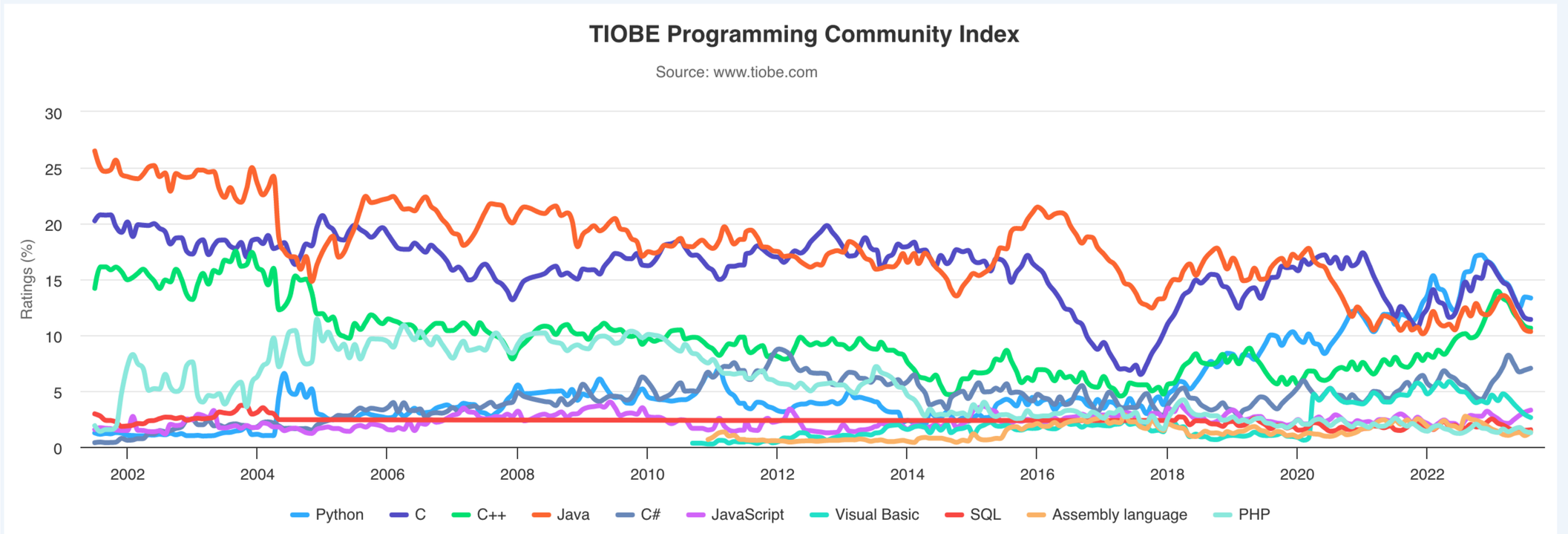
Goals

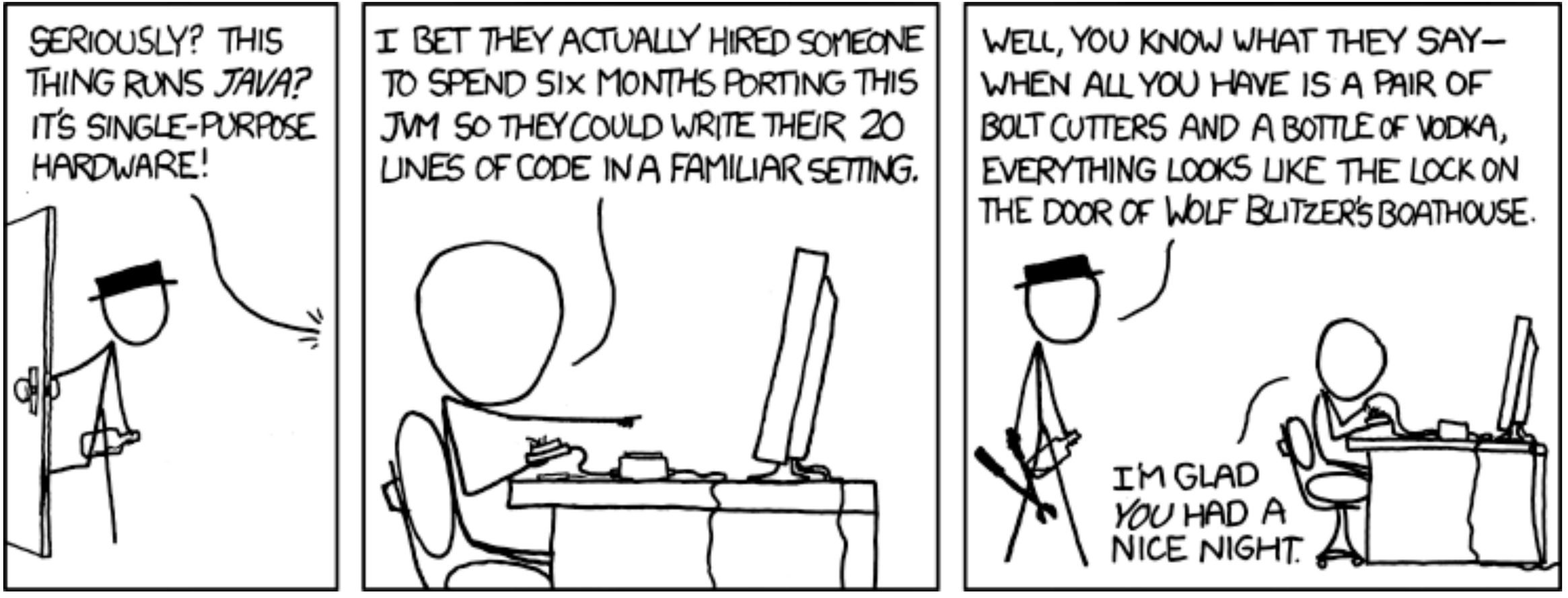
- Write Programs
- Think Algorithmically
- Understand the science of "computer science"
- Learn more about using a computer
- Programming in Java

Java

Why is Java the first language taught at BM

- large, well-organized libraries
- clean, consistent syntax
- Widely used




SERIOUSLY? THIS THING RUNS *JAVA*? IT'S SINGLE-PURPOSE HARDWARE!
I BET THEY ACTUALLY HIRED SOMEONE TO SPEND SIX MONTHS PORTING THIS JVM SO THEY COULD WRITE THEIR 20 LINES OF CODE IN A FAMILIAR SETTING.
WELL, YOU KNOW WHAT THEY SAY— WHEN ALL YOU HAVE IS A PAIR OF BOLT CUTTERS AND A BOTTLE OF VODKA, EVERYTHING LOOKS LIKE THE LOCK ON THE DOOR OF WOLF BLITZER'S BOATHOUSE.
I'M GLAD *YOU* HAD A NICE NIGHT.

Other Programming Languages

Compiled

Suppose program file: xxx.lang
To Run
    yyy xxx.lang
        compiler translates to machine code, creates xxx
    xxx
        run on machine

Comments
    xxx only runs on that machine type
    xxx cannot be de-compiled to xxx.lang
    fastest

Byte Compiled

Suppose program file: xxx.lang
To Run
    yyyc xxx.lang
        compiler translates to byte code, creates xxx.BYTE
    yyy xxx
        run on machine

Comments
    xxx only runs on any machines that has yyy
    xxx can be de-compiled to xxx.lang
        often very hard
    Almost as fast as compiled

Interpreted

Suppose program file: xxx.lang
To Run
    yyy xxx.lang
        run inside interpreter
Comments
    xxx.lang only runs on any machines that has yyy
    xxx.lang is your source code
    SLOW