

# CompSci 6

# Introduction to Computer Science

November 29, 2011

Prof. Rodger

# Announcements

- Exam 2 back
- Read for next time Chap. 11.1-3 (just the part about selection sort, the first four pages)
- Reading Quiz on Blackboard
  - Due before class next time
- Assignment 7 out, due Tues, Dec 6
- One more APT assignment out

# What is Computer Science?

- The Organization of Data, and Searching



Web

Did you mean: [computer science](#)



amazon.com

Your  
Store

See All 32  
Product Categories

Your Account |  Cart

facebook

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

# Now let's focus on searching

- Linear Search
  - linear\_search1
  - linear\_search2
  - linear\_search3
- Compare and time three methods
- Binary search
  - algorithm
  - Tradeoff – data must be sorted to use

# Binary Search

3 7 8 10 13 18 21 22 25 34 37 42 44 46 49

# Binary Search

3 7 8 10 13 18 21 22 25 34 37 42 44 46 49

# Thinking about Sorting

## Jannie Tan

- Is sorting important?
- Is it a common problem?
- In what contexts do you encounter sorting?

# Selection Sort

- Step 1: Find the minimum value
- Step 2: Swap it with the value in the first position
- Step 3: Keep going until the list is sorted



Selection Sort picks the Smallest!  
SSS!

# Correctness

- Why is algorithm correct?

# Efficiency

- Is this algorithm efficient?

# Code

- Let's code it!