CompSci 6
Introduction to Computer Science

December 1, 2011

Prof. Rodger

Announcements

- Read for next time Chap 11.3-11.6
- RQ on Blackboard
  - Due before class next time
- Assignment 7 due 12/6
- APT 6 due 12/8

Comparison

- Linear Searches vs Binary search
- If there are N elements in the list
  - In the worst case, how many elements do you need to look at to find an item?
  - What is the fewest number?
  - What happens as N gets larger in both cases?

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!

Insertion Sort

- Maintain a sublist of sorted elements.
- For each item one at a time, insert it into the sorted sublist.

- N elements total
- How long does insertion sort take?

Insertion Sort

- 11 8 3 17 22 12 9 5

InsertionSort vs SelectionSort

- How do these compare?