Week 4 section

CS50. Neel Mehta. 9/29/15.

Today's schedule

- 7:10-7:25 Intro
  - Introductions
  - Advice
  - Reading through handout
- 7:25-8:10 Practice sorting & searching
  - 7:25-7:40 Thing 1
  - 7:40-7:55 Thing 2
  - 7:55-8:10 Thing 3
- 8:10-8:30 Address topics you need help with & pset3

Introduce yourself!

- Name, year, house, concentration
- Most exciting thing this semester, besides CS50 ;)

Advice from pset1 for pset3+

- Descriptive variable names
- Smart comments
- Style50
- Check50

Look through the handout (3min). What do you have questions about?

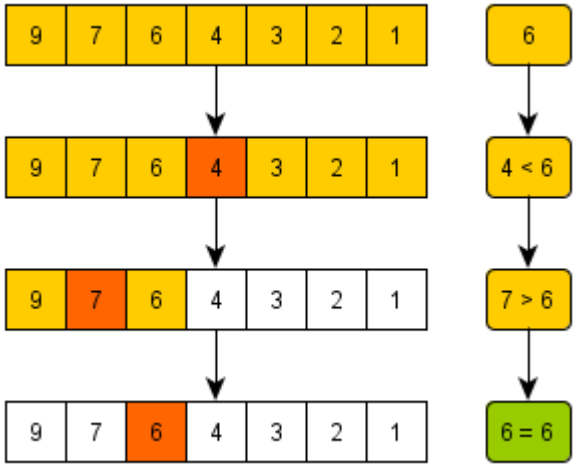
Choose the 3 things we most need to cover

- Binary search
- Bubble sort
- Selection sort
- Insertion sort
- Merge sort

Bonus stuff we can cover

- Debugging
- 2D arrays

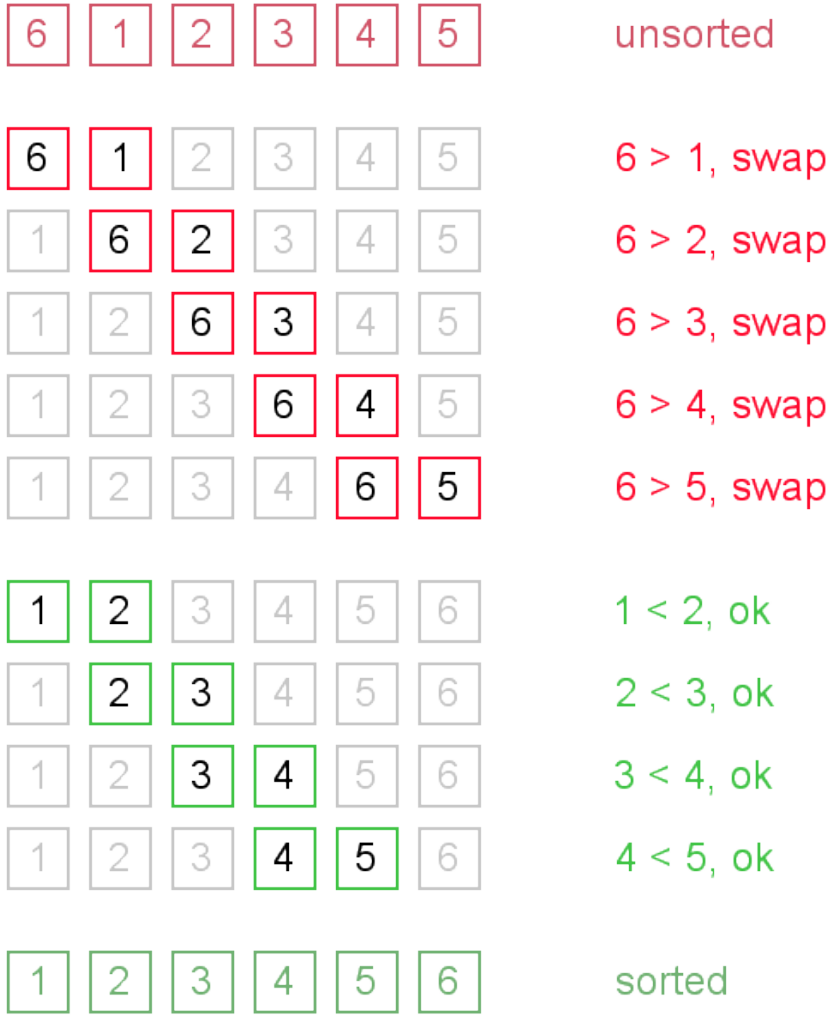
Binary search



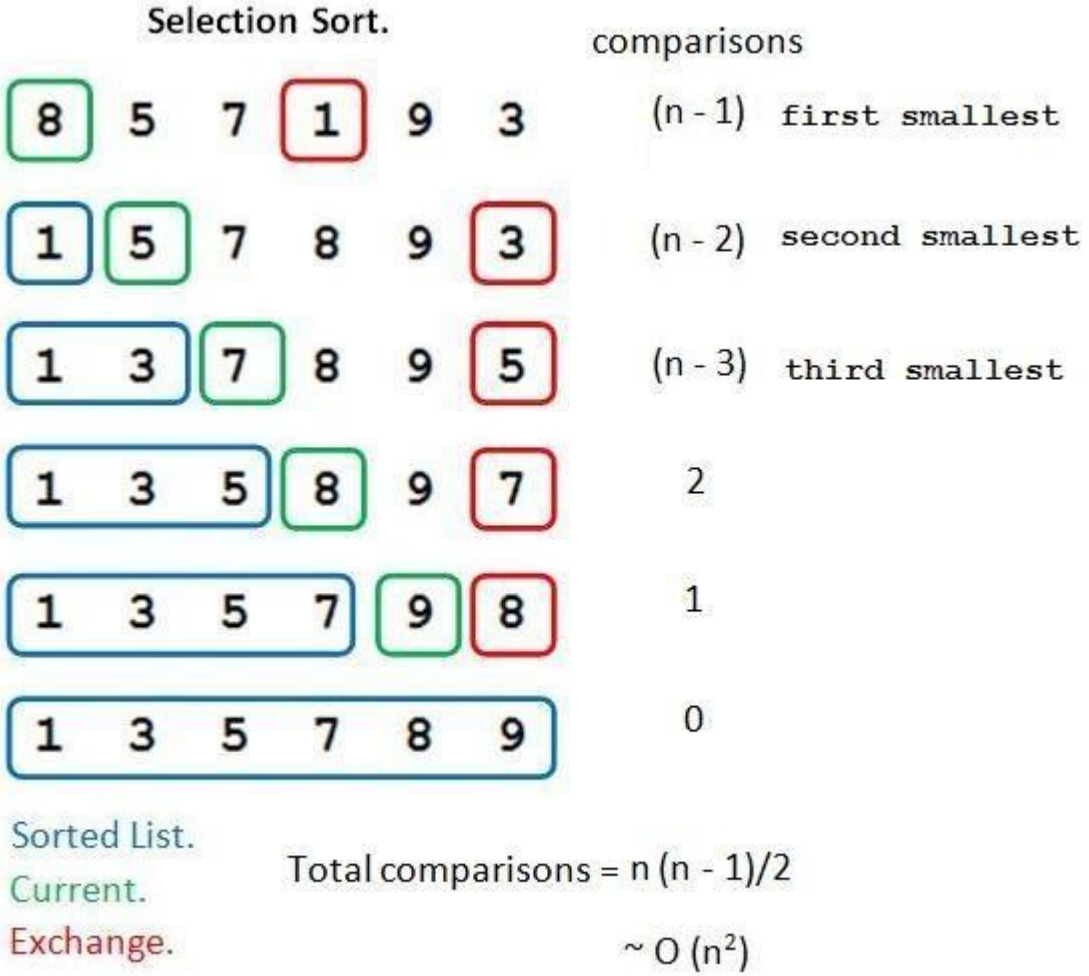
Sorting

- Visualizations: http://www.sorting-algorithms.com/
- My examples: https://www.khanacademy.org/computer-programming/sort-visualizer/4870139487715328

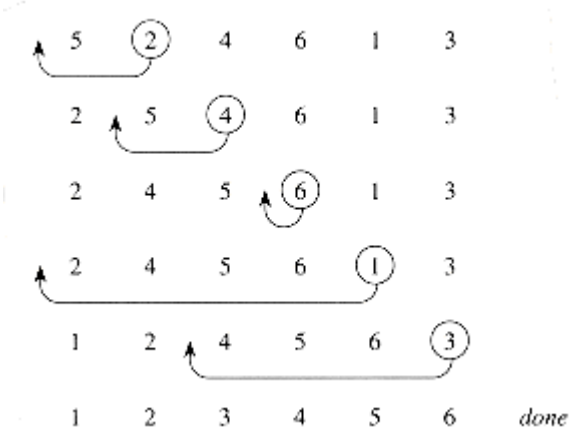
Bubble sort


6 1 2 3 4 5
unsorted
6 1 2 3 4 5
6 > 1, swap
1 6 2 3 4 5
6 > 2, swap
1 2 6 3 4 5
6 > 3, swap
1 2 3 6 4 5
6 > 4, swap
1 2 3 4 6 5
6 > 5, swap
1 2 3 4 5 6
1 < 2, ok
1 2 3 4 5 6
2 < 3, ok
1 2 3 4 5 6
3 < 4, ok
1 2 3 4 5 6
4 < 5, ok
1 2 3 4 5 6
sorted

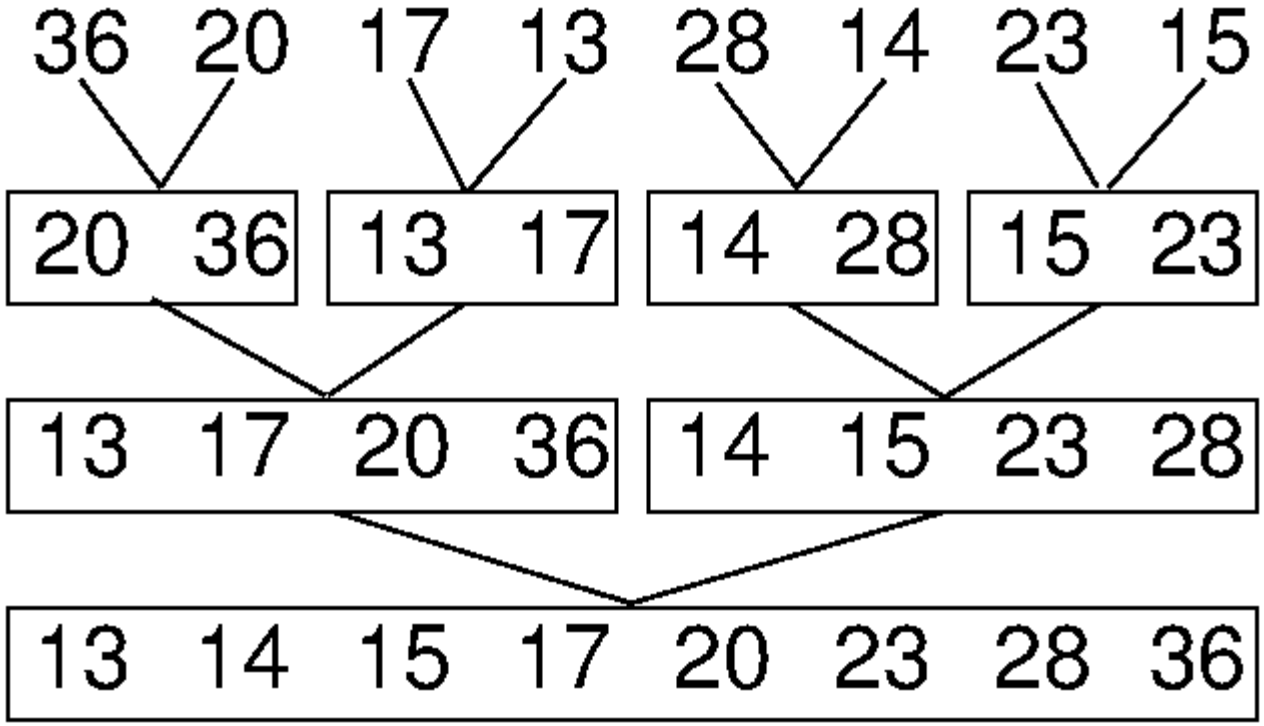
Selection sort



Insertion sort



Merge sort


36 20 17 13 28 14 23 15
20 36 13 17 14 28 15 23
13 17 20 36 14 15 23 28
13 14 15 17 20 23 28 36

Let’s go over whatever you needed help with.

Questions? Walk to Widener with Neel.