Sorting

CSE 114 INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING

Announcements

Topics:
- Multiple classes in a Java program
- Static objects and dynamic objects
- Sorting and searching

Reading: follow the lecture notes closely and use textbook as a reference

Creating our own tools
Using multiple Java files

Multiple classes making up a program

See program_structure_4.txt (v. 4)

See this one for structure 4.1

one/Selection.java (next)

See this one for structure 4.2

multiple/ArrayTools.java

multiple/Selection.java

Static objects vs. dynamic objects

See StaticVsDynamic.java

Sorting

See visualizations of different sorting algorithms: http://visualgo.net/en/sorting

Selection sort
◦ See Selection.java (in either the 'one' or 'multiple' folder)
◦ Multiple classes making up a program

public vs. private
◦ Now that we are writing programs consisting of multiple classes we can talk about public vs. private
◦ See ssort and swap in Selection.java for an example

Insertion sort
◦ See Insertion.java
◦ Comparison with selection sort algorithm

Quick sort, merge sort
◦ We will only see a demonstration of these and a brief description of the ideas in this course if time permits
◦ We will see advanced sorting algorithms in CSE 214

Searching

Linear search
- Too slow for a large number of data elements
- See Search.java

Binary search
- See BinSearch.java
- Much more efficient than linear search!
- How much more?

Next time

Objects!