Additional Topics for Test2

Understand the following terminology and the concepts behind them:

- class
- object
- instance
- instantiation
- constructor
  - default no-arg constructor
  - use of 'this'
- instance variables (and their scope)
- static variables (also called class variables)
- instance versus static methods
- getter/setter methods
- private/public variables
- reference variable for an object (i.e. declaring an object) versus creating an object
- dot operator for invoking an object's methods
- data encapsulation (e.g. by making variables private)
- null reference
- use of 'this' (two meanings)
- immutable objects and classes
- Wrapper classes
- UML

Know how to use or do the following:

- Arrays of objects
- Passing objects to methods
- Comparison of objects (obj1.compareTo() method)
- toString methods
- Multidimensional Arrays (arrays of arrays)
  - a.length vs. a[i].length
- Stacks

Algorithms:

- searching algorithms (linear search, binary search)
- sorting algorithms (applied to arrays of primitive variables as well as objects)
- comparing (alphabetizing) strings
- counting duplicates
- merging sorted arrays of objects