CS 302 Week 8

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Self-Efficacy

- Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997).
- Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment.
Class Survey

- Repeat and Record questions and answers
- Too fast/too slow & interested/bored
- Improve slides and way I teach for each lecture
- Clickers?
- E-texts?
Program 2

Program 2 Due Thursday 11:30am

- Algorithms
- Testing
- Debugging
Object-Oriented Programming

A week ahead of assignments.
A specific, tangible example with ArrayLists
Conceptual Discussion
Arrays

- fixed number of same data type (contiguous in memory)
- What would we like to do with arrays?
  - Add elements, remove elements...
import java.util.ArrayList;

public class MyClass {
    public static void main( String [] args) {
        ArrayList<String> cityList = new ArrayList<>();
        cityList.add( "Denver" );
        cityList.add( "Madison" );
        System.out.println( "Empty:" + cityList.isEmpty());
        System.out.println( "Size: " + cityList.size());
        System.out.println( "toString: " + cityList.toString());
    }
}

ArrayList
Array vs. ArrayList

String[] items;
items = new String[4];
items[0] = "10";
items[1] = "12";
String k = items[0];
items.length //?
//remove 0?
//add 10 Strings?
Arrays.sort(items);

ArrayList<String> list;
list = new ArrayList<String>();
list.add( "10”);
list.add( "12”);
String k = list.get(0);
list.size() //?
list.remove(0);
//add 10 Strings?
Collections.sort(list);
Objects

Representing things in the world, within software.

Such as Person
Classes and Objects

class, instance, object
constructor, no-arg, default
field, attribute, instance variable
toString() instance method, overriding
this, super
printing object
Classes and Objects

public, private, protected, <package>

accessors (getters), mutators (setters)

state of an object

attributes

multiple argument constructors, initializing equals