1 CS3134 #4

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2 Administrivia

- HW#1 is out
- What did recitations cover?
  - We do need *some* basic OO concepts
  - Apologies for lack of synchronization between myself and the TAs
  - Apologies for the room mess-up yesterday

3 Agenda

- Again, try to finish up Java/OO introduction
- Segue into arrays & lists

4 Java refresher

- "this" keyword
- Where main can belong…
- Packages
  - What does it mean to *import*?
  - Java.util.* or java.io.*
- Exceptions
- BufferedReader example
- Javadocs, books – can't guarantee board code

5 Java refresher II

- We're going to wait on subclassing, polymorphism, and inner classes
- More complex example: employee database
  - Employee class
    - Constructors
    - Getters/setters
    - Print info
  - Runner program
    - Create a few employees, stick into array, and iterate through them
    - Array, eh? Iterate? What's those?

6 Lists

- Chapter 2 deals with "arrays"; most common form of lists, but definitely not the only one
- Use the sample applet and play with it – supports:
  - New
  - Fill
  - Insert
  - Find
  - Delete
- These are *abstract operations* for a list – note how it doesn't assume array

indices, etc. We'll answer "why?" later

7 ▣ Lists II

- Implementing each of these operations
  - New: new type[];
    - Initialization – default and custom {}
  - Access an element by index
- Sample book program starts with these primitives and works with them manually
  - Need to divide this into multiple classes
  - Read the book for the iterative examples

8 ▣ Lists III

- We want to create an *interface* for a list: what the user has to deal with
  - Next refinement: setElem(i) and getElem(i)
  - Still too much work!
- Higher-level interface definitions: *abstraction*
  - Insert()
  - Delete()
  - Find()

9 ▣ Next time…

- Ordered lists – can we be more efficient with them?