CS1122
Test 1 Review
When/Where

- When: Tuesday, Feb. 10\textsuperscript{th}, 6pm-8pm
- Where: Dow 641
Disclaimer

This is intended to give an idea of what to expect on Exam 1. This most likely is NOT a comprehensive list of topics and concepts that will be covered on the exam, but should provide a good starting point for preparing for the exam.
Inheritance

• When do you?
  • Push Fields (Variables) up a class hierarchy?
  • Push Methods up a class hierarchy?
  • Put Abstract Methods in a class hierarchy?
Polymorphism

• What is polymorphism?
• What does polymorphism allow?
• How does polymorphism promote code reuse?
Abstract Classes

• What makes a class abstract?
• What can abstract classes do that other classes can’t?
• Why are abstract classes useful?
Class Hierarchy?

- What is it?
- Be able to draw one and understand parent/child relationships within one.
Interfaces

- How many can you implement via inheritance?
- What can they contain?
- What can they not contain?
public static void main(String[] args) throws IOException {
    //Basic File IO sample code to play with
    Scanner in = new Scanner(new File("test"));
    PrintWriter out = new PrintWriter(new BufferedWriter(new FileWriter("testoutput")));

    while(in.hasNext()) {
        if(in.hasNextFloat()) {
            out.println(in.nextFloat());
        } else {
            in.next();
        }
    }
    in.close();
    out.close();
}

Contents of test:
12
cat
7
3.14159
13.5
Algorithmic Analysis

• Be able to take a loop or nested loops and give the Big O runtime
• Be able to identify the Big O runtime of a method that works with an array
• Be able to identify the Big O runtime of operations on a specific stack or queue implementation
• Know common Big Os and examples of algorithms that have each of those Big Os
Stacks and Queues

• Know which is FIFO and which is LIFO

• What FIFO and LIFO mean

• Know the defining methods of stacks and queues (e.g. push, pop, queue, and dequeue) and which structure uses which

• Know how they can be implemented with an array or an array list (fill in the blank method)

• Be prepared to analyze code that utilizes a stack or a queue and explain what it does
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- Bring: Writing Implement, Yourself