Towers of Hanoi

- Optional/extra credit program
- If you missed lab 1 -- do this!
- Problem: move disks from A to C

Midterm Review

- Chapters 1 through 4 in text
- Closed book, closed notes exam
- Many “what does this do?” questions
- Two-choice questions and grading
- Also: short answer, fill in the blank, fix the program, write short section of code
- Box answers if other stuff on page

Java and program basics

- Algorithms, programs, flowcharts
- Software life cycle (specification, design, implementation, testing, maintenance)
- Using javac and java to compile and run
- One class per file
- Use of class ClassName {
  static void main (String[] args) {

Lexical elements/keywords

- White space, comments, keywords, identifiers, literals, operators, punctuation
- Keywords:
  - Types: boolean, char, double, float, int, long,
  - Statements: import, class, case, if, else, while, continue, break
  - Functions: return, void, public, static
- Non-keywords: String, true, false, main

Identifiers/Variables

- Identifiers name variables, classes, methods
- Valid identifiers and conventions
- How variables work, declaring and initializing variables, assignment statements
- Datatypes, literals, expressions
- Type conversions - automatic and casts

Input/Output

- System.out.println() and System.out.print()
- Console.in.readInt(), Console.in.readChar(), Console.in.readCharNonwhite()
Statements and Block Statements

- while, for, if, else, switch
- Which “if” an “else” goes with
- break and continue in loops, ++ in for loops
- case and break in switch
- block statements (surrounded by { }) and the scope of variables

Methods

- Defining and using (calling, invoking)
- Parameters, arguments values, return values
- Recursive methods
- Method signatures and overloading

operators and precedence

- Arithmetic + - * / (int vs float) %
- String +
- relations < > <= >= == !=
- Boolean operators && || (also !)
- Precedence:
  - * / % before + -
  - Arithmetic before relations
  - Relations before && ||