CS 120 Computer Science I, Winter 2004, Instructor: Jeffrey Horn

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COURSE ANNOUNCEMENTS (Thursday, April 15, 2004)

- **What's REALLY New:**
  - Quiz 3, in class, programming, click here
  - HW 6 assigned (last ONE!) See below.
- **Not so New (Older Announcements):**
  - HW 5 assigned. See below.
  - Quiz 2 (NOT PRACTICE!) to be given on-line NEXT Thursday, 3-25-04. Same topics as on the two practice quizzes, Quiz 0 and Quiz 1, and same type of questions. The two practice quizes should now be avail. again, FOR PRACTICE (they are for you to look at the example questions, and answers; I won't be grading them).
  - Posted our HW4 example from our 3-16 class on the web. See the HW4 assignment below for the link, or click here.
  - Changed due date for HW 4 (now Wed., March 24, two days later)
  - Added HW 4 (see below).
  - HW 2 has been graded (via WebCT). I am still grading a few who emailed me their assignments or sent it in late...
  - Quiz 1 was graded (automatically)
  - Added some more example code for HW3, including some from class, and the one that Trisha Wells (tutor) did with you last week while I was out at the Dagstuhl Seminar. Se HW 3 assignment below.
  - All of Quiz 0 has been graded. You should be able to see your grade (remember this one was practice!) and the correct answers, on WebCT. (note that Quiz 1 will be completely multiple choice, so that grading will be automatic. At 7:45 pm Thurs., the Quiz 1 grades and answers should become available. Again, quiz 1 is practice. The real thing starts after break! Have a good one!)
    Quiz 1 this Thursday, Feb. 26, 2004, on-line, in-class, open-book, etc. (just like Quiz 0, but perhaps a bit easier!)
  - HW 3 due date extended one day: from this Th. to this Fri. (end of day, 11:55pm), 2-27-04
    OK, at about 7:45 pm tonight (2-17-04), the quiz should become available on WebCT for one hour. Remember that is practice, and that it is open book, open notes, open computer, etc. BUT DO YOUR OWN WORK! How else will you know how good you are? You can always ask someone about the questions LATER.

    This is an experiment, as I have never used WebCT for an online quiz, so please feel part of a constructive exercise and don't get discourage if things go wrong. Just let me know how it goes and we'll make it better next time!

  - HW 3 assigned. See below.
  - Today, Thursday, is a lab day, and the last one to work on HW 2! (due Tues. Feb. 10)
  - Added a WebCT dropbox of HW2. Turn your source code (the .java file) in there.
  - HW 2 due date pushed back. See below.
  - HW 2 assigned. See below.
  - HW 1 assigned. See below.
  - Fixed link to Sun's documentation site (I don't expect you to use this just yet!)

- HW 1 assigned. See below.
- Fixed link to Sun's documentation site (I don't expect you to use this just yet!)
- Welcome to CS 120!

CONTENTS

- Administrativa
  - Syllabus
  - Free Tutoring: tutoring by expert CS majors will be available in the computer lab in NSF 1207 as follows:
    - Wednesdays 6:00 - 8:00 pm
    - Thursdays 1:00 - 3:00 pm
- Lecture Notes
- Homeworks & Programs
- Programming
- Tests and Quizes

LECTURE NOTES

The JAVA model of Computation (Translation and Execution)
Sample code from class

• HOMEWORKS & PROGRAMS

- **Homework 1: "Hi World"**
  - Handed out Thursday, January 15, 2004
  - Due: Thursday, January 22, 2004, in class
  - Purpose: get acquainted with our programming environment
  - Reading: Beginning of chapter 1 (**section 1.1**)
  - Assignment:
    1. Follow instructions on handout *Getting Java Software for CS 120*, to download and install BOTH the TextPad editor and the Java Developers' Kit (JDK) version 2 from the internet. Note that these are BIG downloads! Do them on a broadband connection.
    2. Enter in the code from example 1 (on page 1-1) of our text, *GUI Java*. (You can copy and paste it from here)
    3. Save it, execute it, debug it, save it again.
    4. Modify it in your own UNIQUE way! E.g., Draw several rectangles and print several text fields. Three requirements here:
       1. Has to be original (no duplicating anyone else's code in class)
       2. Has to include multiple SOMETHINGs (e.g., multiple shapes, multiple text, multiple scroll panes).
       3. Must include at least one new METHOD (i.e., something NOT in the sample code on page 1-1; e.g., "drawOval")
  - Details on how to turn it in:

Show it to me on Thursday September 4,. in class!

- **Homework 2: "Loops and Private Methods with Parameters"**
  - Handed out Tuesday, January 27, 2004
  - Due: Tuesday, Feb. 10, 2004 end of day
  - Purpose: Learn
    1. repetition (loops),
    2. breaking up code into methods,
    3. methods that use parameters, and
    4. nested methods calls.
  - Reading: Rest of chapter 1 (**sections 1.2, 1.3**) and Chapter 2, s**ections 2.1 and 2.2**
  - Here is the example code from class (for drawing a forest of trees). Here are some other examples.
  - Assignment:
    1. Make a copy of your entire HW1 project folder. Call it something meaningful, like "HW2".
    2. Create at least one private method that draws something complex, using the values of parameters.
    3. Write a loop in the "paint" method, the body of which calls your private method(s) over and over, to paint many copies of your complex something but differently each time, based on the parameter values it is given in each call.
    4. Use comments!
  - Grading:
    - <=D for a working loop.
    - <=C for only ONE private method.
    - <=B for two or more private methods (that are actually called!).
    - <= A for NESTED private methods! (i.e., "paint" calls one method, which then calls another method).
    - lose one letter grade for inadequate documentation (i.e., comments)

      I won't be grading comments very closely, this time. I just want to make sure you comment each method, loop, statement block, and variable, with SOMETHING!
  - Handing it in:
    - Use WebCT. There is a dropbox for HW2. Turn in your souce code (that is, your ".java" file).

- **Homework 3: "Handling Java Events: Buttons, Mice, and Keyboards"**
- Handed out Thursday, February 12, 2004
- Due: Friday, February 27, 2004, end of day
- Purpose: Learn

1. *the Java event model*
2. *button input*
3. *state variables*

- Example Code (we developed this in class):
- Original FollowTheClick (hacked up in class)
- Simplified FollowTheClick
- Simple Use of Buttons
- Trisha's code
- Assignment:
  0. Copy this "template code" to a new folder (like "HW3" or something logical like that!).
  1. Modify the source code file (".java" file) to add the following capabilities:
     - Display some graphic in the window (e.g., a car, tree, forest, monster, polygon, etc.)

- Add buttons to allow a user of your program to change the graphic. You can use any buttons you like, and as many as you like, but it must be possible for the user to change the graphic in at least TWO different ways (e.g., x-y position, width, height, color, number of points in polygon, add a shape, delete a shape). *Ask instructors about this in class or lab!*
- Also, you MUST make it possible to undo whatever change your button allows (e.g., if a button makes a graphic move left, then there should be another button to move it right). *Ask instructors about this in class or lab!* The user should always be able to get back the original "state" of the graphic. This is generally good user interface design!
- For each button, there should be a corresponding keystroke to also activate that function. This should be indicated somewhere on the screen.

2. You must start commenting more (and better!). At the very least:
   - Put your name, date, the class, and the assignment number in comments at the TOP of your source code.
   - Comment EVERY single new variable AND method that you create.
   - Indent!

- Grading:
  - <=D for a working button.
  - <=C for a above **and** a working keystroke input.
  - <=B above, for at least TWO different functions (i.e., working button and keystroke for at least two different changes to the graphic).
  - <= A for above plus the ability to UNDO anything and everything the user input does.
  - lose one letter grade for inadequate documentation (i.e., comments)

- Handing it in: Use WebCT. There is a dropbox for HW3. Turn in your souce code (that is, your ".java" file)

- **Homework 4: "Program Design: Coming Up With Your Own Classes"**
- Handed out Thursday, March 11, 2004
- Due: Wednesday, March 24, 2004, end of day
- Read chapter 4. For assignment, click here

- **Homework 5: "Nested Objects"**
- Handed out Monday, April 5, 2004
- Due: Wednesday, April 14, 2004, end of day
- Read chapter 5 (especially 5.3). For assignment, click here
- **Homework 6: "Nested Objects"**
- Handed out Thursday, April 15, 2004
- Due: Thursday, April 22, 2004, end of day (NO LATE ASSIGNMENTS, as we will be going over a solution in class that day!)
- Read chapter 6. For assignment, click here

PROGRAMMING

Language: Java

Free Downloads: Click here for instructions on how download *TextPad* and Sun's *Java 2 Platform*.

Here is EventPanel, you'll need it for some of the examples in the book. Also, you will need PanelApplet.java.

Helpful Links:

- Sun's JAVA documentation (official class definitions, but NOT a gentle intro to Java!)
- Sun's site (see what Sun is up to, in its campaign to spread Java)

Platform: NMU/IBM ThinkPads

TESTS AND QUIZES

- All tests are open book and open notes. Some require your notebook computer (I'll let you know ahead of time!) NONE are "open neighbor"! (i.e., no help from others!)

FINAL

COMPREHENSIVE EXAM:

- Open book, open notes
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