CS100J   Spring 2008   Preparing for Prelim 2:

Thursday, 13 March. 7:30—9:00PM, Olin 155
Review session, Sunday, 9 October, 1–3PM, Phillips

This handout explains what you have to know for the second prelim.

Material from the first prelim. The second prelim will cover all the material that was on the first prelim. This material was discussed on the handout for the first prelim. Please look at that handout (you can get it from the course website if you lost it).

In addition, you need to know the following.

1. Apparent and real classes. Casting from a subclass to a superclass and back. See Sec. 4.2 of the text.

2. The class hierarchy. Class Object. Function equals. Operator instanceof. See Sec. 4.3.

3. Methods executing method calls, pages 93-94. You need not know the later material on the stack of frames for a method call.

• Be able to draw a frame for a method call, including knowing what goes in the scope box.
• Be able to write down the steps involved in executing a method call (see below)
• Be able to execute a method call by hand, drawing frames and objects as necessary.

Here are the steps involved in executing a method call:
1. Draw the frame (see page 93).
2. Assign the values of the arguments to the parameters (in the frame).
3. Execute the method body.
4. Erase the frame. If this is a function, use the value of the return-statement expression as the value of the function call.

4. Recursion. Be able to write recursive functions. See lecture notes for pages to read in the text.

5. For-loops, used to process a range of integers. Read Sect. 2.3.8, pp 236-237 (a note on ranges h..k), and the slides from the lectures on 4-6 March. You will have to know the four loopy questions (see p. 256, end of Sect. 7.5.3.). If we ask you to develop a for-loop, we will give you the postcondition and loop invariant.