CS61B, Fall 2008   **HW #11**   **P. N. Hilfinger**

Due: Wed., 2 December 2009

Homework Exercises.   You'll find a skeleton for your answers in the `hw11` staff directory.

1.   Do exercise 12.1 from *Data Structures Into Java.* However, the template is in `hw11/Chase.java`, rather than what the problem says. Take input to the program from the standard input (System.in).

2.   Fill in the implementation of the union-find class in `hw9/UnionFind.java`.

3.   In the standard Unix `make` program, the notation

$$F_0 : F_1 F_2 \ldots$$

means both "to create F_0, you must first create or have available F_1, F_2, ..." and also "whenever you change any of F_1, F_2, ..., you must then modify F_0." Each of the F_i is a string of non-blank characters, not including colon. Fill in the template `hw9/Make.java` to read a number of lines in this format and then to generate a list of lines of the form

    Generate F_i

that will create all the F_i that appear to the left of a colon in the input in such an order as to obey the rules in the input. If this is impossible (due to circular rules), print just

    Circularity detected.

instead.