CSCI 230, Spring 2015 Due, Wednesday, April 1, 11:59pm
HW 8 Hashing

Part 1: Problem 5.7 In the quadratic probing hash table (see uploaded code), suppose that instead of inserting a new item into the location suggested by `findPos`, we insert it into the first inactive cell on the search path (thus, it is possible to reclaim a cell that is marked "deleted", potentially saving space).

a. Rewrite the insertion algorithm to use this observation. Do this by having `findPos` maintain with an additional variable, the location of the first inactive cell it encounters.
b. Explain the circumstances under which the revised algorithm is faster than the original algorithm. Can it be slower? Support your answer. (**Put the answer to this in comments at the end of your program file.**)

Name this file **QuadraticProbingHashTable2.java** (to distinguish it from the author's)

Part 2: Working from the author's original quadratic probing code, implement cubic probling, as described in problem 5.8: the ith prole is at hash(x) + i^3. Does cubic probing improve on quadratic probing? (**Put the answer to this in comments at the end of your program file.**)

Name this file **CubicProbingHashTable.java**

Be sure to update the documentation in each file, to include your name and what the code now does.

Collaboration: You may discuss these problems with others but may not share code, read each other's code, or even talk about code.

Note – Dr. McCauley will be out of town on Tuesday, March 31, so plan to see Santoshi for questions on that day. So **NO Class on March 31**, so more time to finish up assignment, especially if you start it right away.

Upload two files to OAKS. Upload often, so if you doze off and miss the deadline, you'll have some previous work there to prove that you did not start at the last minute.