MAPS, HASH TABLES, SKIP LISTS– INTERESTING PROBLEMS

ACKNOWLEDGEMENT: THESE SLIDES ARE ADAPTED FROM SLIDES PROVIDED WITH DATA STRUCTURES AND ALGORITHMS IN C++, GOODRICH, TAMASSIA AND MOUNT (WILEY 2004) AND SLIDES FROM NANCY M. AMATO AND JORY DENNY
Consider a hash table with M slots. Suppose hash value is uniformly distributed between 1 to M, and it uses linked list to handle conflicts (if two keys hashed to the same slot). Suppose we put N keys into this M-slotted hash table, what is the probability that there will be a slot with i elements? i could vary from 0 to N.
QUESTION 2

- Remove duplicates in an array of numbers. You can use a second array or the same array, as the output array.
Print the actual phone number when given an alphanumeric phone number. For e.g. an input of 1-800-COM-CAST should give output as 18002662278 (note: output also does not contain any special characters like "-").