2) (10 pts) ALG (Hash Tables)

Suppose we insert nine strings into a hash table and end up with the following:

lime		kiwi	peach		lemon	coconut		mango	orange	apple		banana
0	1	2	3	4	5	6	7	8	9	10	11	12

Furthermore, suppose we no longer know the order in which those strings were inserted or what their hash values were.

In solving this problem, you may assume quadratic probing for collisions during the insertions. You should also assume that no strings have been deleted from the table and that each of these strings was inserted exactly once (no more, no less). You may also assume the table length was 13 for all insertions (i.e., none of the insertions triggered an expansion of the hash table).

Fill in **the 10 blanks below** to indicate whether the hash value for banana, when modded by the table length (13), might have been the value indicated. For example, it's impossible that hash("banana")%13 could have been 1, because if it were, then banana would be located in position 1 (which is empty now) and not position 12. But, it is possible that that hash("banana")%13 equals 12, because that's where it ended up.

0 _____   Fill in each of these blanks with "YES" or "NO." Do not leave any blank.

1 **NO**

2 _____

3 _____

4 **NO**

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

11 _____

12 **YES**