Section 5: Hashing & Sorting

1. Hash... Browns?

For the following scenarios, insert the following elements in this order: 7, 9, 48, 8, 37, 57. For each table, TableSize = 10, and you should use the primary hash function $h(k) = k$.

a) Linear Probing - Insertion

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

Linear Probing - Delete 37, 7, 57

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

b) Quadratic Probing

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

c) Separate chaining hash table - Use an unsorted linked list for each slot.

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

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2. Double Double Toil and Trouble

a) Describe double hashing.

b) List 2 cons of quadratic probing and describe how one of those is fixed by using double hashing.

c) Compare open addressing and separate chaining.