

Lecture 7

Hash Tables Exercises

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Quiz: Hashing Function

- Hashing: Consider a hash table of size 4, with starting index zero, and a hash function $(7x+3) \bmod 4$ for key x . Assuming the hash table is initially empty, which of the following is the contents of the table when the sequence 1, 3, 8, 10 is inserted into the table using closed hashing ? Here “__” denotes an empty location in the table.

Quiz: Linear Probing I

- Hashing: The keys 12, 18, 13, 2, 3, 23, 5 and 15 are inserted into an initially empty hash table of length 10 using open addressing with hash function $h(k) = k \bmod 10$ and linear probing. What is the resultant hash table?

Quiz: Linear Probing II

- Hashing: A hash table of length 10 uses open addressing with hash function $h(k)=k \bmod 10$, and linear probing. After inserting 6 values into an empty hash table, the table is as shown below.
- Which one of the following choices gives a possible order in which the key values could have been inserted in the table?

0	
1	
2	42
3	23
4	34
5	52
6	46
7	33
8	
9	

Quiz: Linear Probing III

- What is the probability of next key going in the open slots in the following hash table? Assume each table index is equally likely for each key. $\text{Hash}(k) = k \bmod 7$

49			24	11		27
0	1	2	3	4	5	6