

Tutorial 07: March 6

1. [E] Consider a hash table of size 7. For each of the scenarios below, insert the keys 14, 10, 20, 13, 7, 17, then delete 14 and search for 13.
 - a) Linear Probing with $h(k) = k \bmod 7$.
 - b) Double Hashing with $h_0(k) = k \bmod 7$ and $h_1(k) = (k \bmod 5) + 1$.
 - c) Cuckoo Hashing with $h_0(k) = k \bmod 7$ and $h_1(k) = (k \bmod 5) + 1$.
2. [H] Design a dictionary data structure to store key-value-pairs with uniformly distributed integer keys such that the operations for search, insert, and delete have $O(\log n)$ runtime and $O(1)$ expected runtime.
3. [M] Discussion on Q5 of the midterm.
4. [H] Discussion on Q9 of the midterm.