HashTable

1. Hash Table Collision Resolution
2. Chaining with Linked Lists

The hash table’s array maps to a linked list of items. We just add items to this linked list. If the number of collisions is fairly small, this will be quite efficient.

In the worst case, lookup is O(n), where n is the number of elements in the hash table. This would only happen with either some very strange data or a very poor hash function.

1. Chaining with Binary Search Tree

Rather than storing collisions in a linked list, we could store collisions in a binary search tree. This will bring the worst-case runtime to O(logn).

In practice we would rarely take this approach unless we expected an extremely nonuniform distribution.