Hash tables

When to use: bulk of the work is repeated look ups

2-sum problem: Assume there are n numbers

Input: unsorted array of n numbers. Target sum t

Goal: determine if there are two numbers x, y satisfying x + y = t

1. Insert everything into a hash tables n x O(1) = O(n)
2. For each x in the array, look for t-x in the hash table n x O(1) = O(n)