

# Leetcode Notes and Practice

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# 1 Hashing

## 1.1 Valid Anagram

**Question:** Given two strings *s* and *t*, return true if the two strings are anagrams of each other, otherwise return false

- Create two separate dictionaries
- Loop through one of the input strings, add key letter or letter freq.
- If dict are the same, return true

## 1.2 Twosum

**Question:** Given an array of integers *nums* and an integer *target*, return the indices *i* and *j* such that  $nums[i] + nums[j] == target$  and  $i \neq j$

- Use a hashmap to store the index of each number in the array as the *value*
- On each iteration, check first to see if the difference between the target val and the current num is already stored in the hashmap
- If it is, then return the value at that key (the index), as well as the current index *i*
- If it's not, then add the current number and index to the hashmap
- **Key Idea:** Always check the existence between the target and the current number as a key in the hashmap first!

# 2 Two Pointers

## 2.1 Valid Palindrome

**Question:** Given a string *s*, return true if it is a palindrome, otherwise return false.

A palindrome is a string that reads the same forward and backward. It is also case-insensitive and ignores all non-alphanumeric characters.

- First change the string to all lowercase with `.lower()` function, this ensures case sensitive args are taken care of
- Init left and right pointers to first and last characters
- Do a check using `.isalnum()`. If it is *not* alpha numeric, then increment or decrement the pointer and *continue* through the loop
- While left is less than or equal two right, compare the letters, if not the same, return false
- increment / decrement left and right at bottom of loop