

Smart Coding & Interview Series

Top-20 Basic Program

(Set & MultiSet Applications)

First, understand the solution building strategies and coding for the problems in LIVE/VIDEO session and then you apply those strategies discussed in LIVE/VIDEO session to solve the following problems. Use your favourite language(C/C++/Java/C#/Python/Scala) for coding.

1) Intersection of Two Arrays: Given two arrays, write a function to compute their intersection. Each element in the result must be unique and result can be in any order.

Example:

Input: $nums1 = [1,2,2,1]$, $nums2 = [2,2]$

Output: $[2]$

Source: <https://leetcode.com/problems/intersection-of-two-arrays/description/>

2) Missing String: Given two strings, you have to find the missing string. The output string order is the order within the input string

Example:

Input: $str1 = \text{"This is an example"}$, $str2 = \text{"is example"}$

Output: $[\text{"This"}, \text{"an"}]$

Source: <http://www.lintcode.com/en/problem/missing-string/>

3) Two Sum: Given an array of integers, return **indices** of the two numbers such that they add up to a specific target. You may assume that each input would have **exactly** one solution, and you may not use the *same* element twice.

Example:

Given $nums = [2, 7, 11, 15]$, $target = 9$,

Because $nums[0] + nums[1] = 2 + 7 = 9$,

return $[0, 1]$.

Source : <https://leetcode.com/problems/two-sum/description/>

4) Unique Email Addresses: Every email consists of a local name and a domain name, separated by the @ sign. For example, in `alice@leetcode.com`, `alice` is the local name, and `leetcode.com` is the domain name. Besides lowercase letters, these emails may contain '.'s or '+'s. If you add periods ('.') between some characters in the local name part of an email address, mail sent there will be forwarded to the same address without dots in the local name. For example, `"alice.z@leetcode.com"` and `"alicez@leetcode.com"` forward to the same email address (Note that this rule does not apply for domain names). If you add a plus ('+') in the local name, everything after the first plus sign will be ignored. This allows certain emails to be filtered, for example `m.y+name@email.com` will be forwarded

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to my@email.com. (Again, this rule does not apply for domain names.) It is possible to use both of these rules at the same time.

Given a list of emails, we send one email to each address in the list. How many different addresses actually receive mails?

Example:

Input:

["test.email+alex@leetcode.com", "test.e.mail+bob.cathy@leetcode.com", "testemail+david@lee.tcode.com"]

Output: 2

Explanation: "testemail@leetcode.com" and "testemail@lee.tcode.com" actually receive mails

Source: <https://leetcode.com/problems/unique-email-addresses/>