100 Must do LEETCODE Problems

1. ARRAYS:

1. Given an integer array nums, return an array answer such that answer[i] is equal to the product of all the elements of nums except nums[i].

Practice

2. Given an integer array nums, move all 0's to the end of it while maintaining the relative order of the non-zero elements. Note that you must do this in-place without making a copy of the array.

Practice

3. You are given an array of prices where prices[i] is the price of a given stock on an ith day. You want to maximise your profit by choosing a single day to buy one stock and choosing a different day in the future to sell that stock. Return the maximum profit you can achieve from this transaction. If you cannot achieve any profit, return 0.

Practice

4. The next permutation of an array of integers is the next lexicographically greater permutation of its integer. Given an array of integers nums, find the next permutation of nums.
The replacement must be in place and use only constant extra memory.

Practice

5. Given an array of integers and an integer target, return indices of the two numbers such that they add up to target.

Practice

6. You are given an integer array height of length n. There are n vertical lines drawn such that the two endpoints of the ith line are (i, 0) and (i, height[i]). Find two lines that together with the x-axis form a container, such that the container contains the most water. Return the maximum amount of water a container can store.

Practice

7. Given an array nums with n objects colored red, white, or blue, sort them in-place so that objects of the same color are adjacent, with the colors in the order red, white, and blue.

Practice

8. Given an array of positive integers nums and a positive integer target, return the minimal length of a subarray whose sum is greater than or equal to target. If there is no such subarray, return 0 instead.

Practice

9. You are given two integer arrays nums1 and nums2, sorted in non-decreasing order, and two integers m and n, representing the number of elements in nums1 and nums2 respectively. Merge nums1 and nums2 into a single array sorted in non-decreasing order.

Practice

2. STRINGS:

1. Write a function that reverses a string. The input string is given as an array of characters s. You must do this by modifying the input array in-place with O(1) extra memory.

   Practice

2. Given two strings s and p, return an array of all the start indices of p's anagrams in s.

   Practice

3. Given two strings s and t of lengths m and n respectively, return the minimum window substring of s such that every character in t (including duplicates) is included in the window. If there is no such substring, return the empty string "".

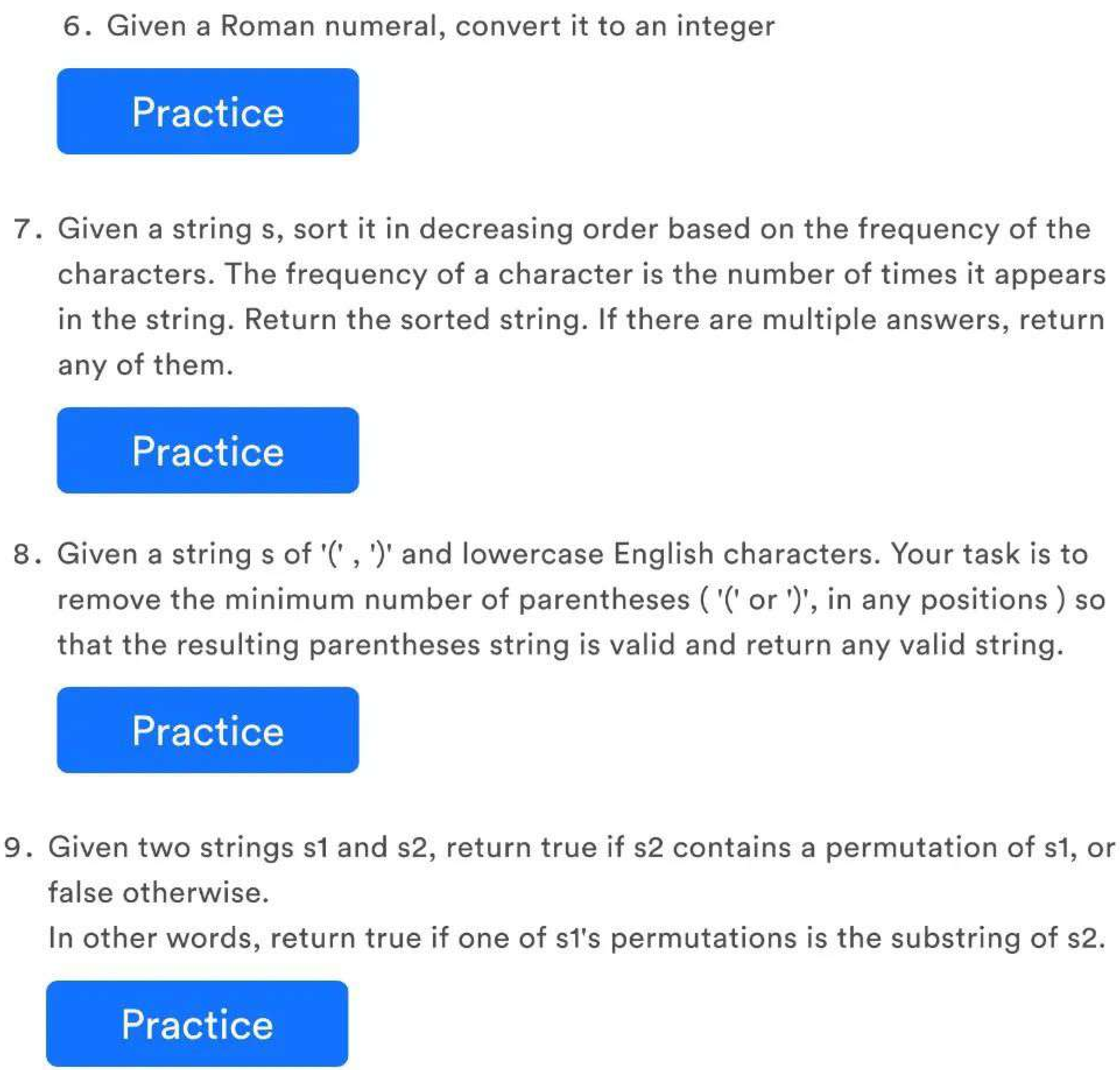
   Practice

4. You are given a string s and an integer k. You can choose any character of the string and change it to any other uppercase English character. You can perform this operation at most k times.

   Practice

5. Given an array of strings strs, group the anagrams together. You can return the answer in any order. An Anagram is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once.

   Practice



6. Given a Roman numeral, convert it to an integer

7. Given a string s, sort it in decreasing order based on the frequency of the characters. The frequency of a character is the number of times it appears in the string. Return the sorted string. If there are multiple answers, return any of them.

8. Given a string s of '(' , ')' and lowercase English characters. Your task is to remove the minimum number of parentheses ('(' or ')', in any positions) so that the resulting parentheses string is valid and return any valid string.

9. Given two strings s1 and s2, return true if s2 contains a permutation of s1, or false otherwise.
In other words, return true if one of s1's permutations is the substring of s2.

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3. SEARCHING AND SORTING ALGORITHMS:

1. Given an array of integers nums which is sorted in ascending order, and an integer target, write a function to search target in nums. If target exists, then return its index. Otherwise, return -1. You must write an algorithm with O(log n) runtime complexity.

   Practice

2. Given an n x n matrix where each of the rows and columns is sorted in ascending order, return the kth smallest element in the matrix.
   Note that it is the kth smallest element in the sorted order, not the kth distinct element.
   You must find a solution with a memory complexity better than O(n2).

   Practice

3. Given two sorted arrays nums1 and nums2 of size m and n respectively, return the median of the two sorted arrays.
   The overall run time complexity should be O(log (m+n)).

   Practice

4. Given an integer array nums and an integer k, return the kth largest element in the array.
   Note that it is the kth largest element in the sorted order, not the kth distinct element.
   You must solve it in O(n) time complexity.

   Practice

4. RECURSION:

1. Given n pairs of parentheses, write a function to generate all combinations of well-formed parentheses.

Practice

2. Given an integer array nums of unique elements, return all possible Subsets (the power set).
   The solution set must not contain duplicate subsets. Return the solution in any order

Practice

3. Given an array nums of distinct integers, return all the possible permutations. You can return the answer in any order.

Practice

4. Given a string s, partition s such that every substring of the partition is a palindrome
   Return all possible palindrome partitioning of s.

Practice

6. Given the head of a linked list and an integer val, remove all the nodes of the linked list that has Node.val == val, and return the new head.

Practice

7. Given a string expression of numbers and operators, return all possible results from computing all the different possible ways to group numbers and operators. You may return the answer in any order.

5. HASHING:

1. Given an array of integers nums and an integer target, return indices of the two numbers such that they add up to target.

   You may assume that each input would have exactly one solution, and you may not use the same element twice.

   You can return the answer in any order.

   Practice

2. Given an unsorted integer array nums, return the smallest missing positive integer.

   You must implement an algorithm that runs in O(n) time and uses constant extra space.

   Practice

3. Design a data structure that follows the constraints of a Least Recently Used (LRU) cache.

   Practice

4. You are given a 0-indexed, strictly increasing integer array nums and a positive integer diff. A triplet (i, j, k) is an arithmetic triplet if the following conditions are met:

   i < j < k,

   nums[j] - nums[i] == diff, and

   nums[k] - nums[j] == diff.

   Return the number of unique arithmetic triplets.

   Practice

6. MATRICES AND MULTIDIMENSIONAL ARRAYS:

1. Given an m x n matrix, return all elements of the matrix in spiral order.

   Practice

2. Given an m x n integer matrix matrix, if an element is 0, set its entire row and column to 0's.
   You must do it in place.

   Practice

3. Determine if a 9 × 9 Sudoku board is valid. Only the filled cells need to be validated according to the following rules:
   Each row must contain the digits 1-9 without repetition.
   Each column must contain the digits 1-9 without repetition.
   Each of the nine 3 × 3 sub-boxes of the grid must contain the digits 1-9 without repetition.

   Practice

4. You are given an n x n 2D matrix representing an image, rotate the image by 90 degrees (clockwise).
   You have to rotate the image in-place, which means you have to modify the input 2D matrix directly. DO NOT allocate another 2D matrix and do the rotation.

   Practice

5. Write an efficient algorithm that searches for a value target in an m x n integer matrix matrix. This matrix has the following properties:
   Integers in each row are sorted from left to right.
   The first integer of each row is greater than the last integer of the previous row.

   Practice

6. Given an m x n grid of characters board and a string word, return true if word exists in the grid.
   The word can be constructed from letters of sequentially adjacent cells, where adjacent cells are horizontally or vertically neighboring. The same letter cell may not be used more than once.

   Practice

7. Given an m x n binary matrix mat, return the distance of the nearest 0 for each cell. The distance between two adjacent cells is 1.

   Practice

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7. LINKED LIST:

1. Given the head of a singly linked list, reverse the list, and return the reversed list.

   Practice

2. Given the head of a linked list, rotate the list to the right by k places.

   Practice

3. Given head, the head of a linked list, determine if the linked list has a cycle in it.
   There is a cycle in a linked list if there is some node in the list that can be reached again by continuously following the next pointer. Internally, pos is used to denote the index of the node that tail's next pointer is connected to. Note that pos is not passed as a parameter.
   Return true if there is a cycle in the linked list. Otherwise, return false.

   Practice

4. You are given the heads of two sorted linked lists list1 and list2.
   Merge the two lists in a one sorted list. The list should be made by splicing together the nodes of the first two lists.
   Return the head of the merged linked list.

   Practice

5. Given the head of a linked list, remove the nth node from the end of the list and return its head.

   Practice