



JavaScript Practice 1.5

Subject: Arrays, Strings
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Case 1:

A **valid IP address** consists of exactly four integers separated by single dots. Each integer is between 0 and 255 (**inclusive**) and cannot have leading zeros.

For example, "0.1.2.201" and "192.168.1.1" are **valid** IP addresses, but "0.011.255.245", "192.168.1.312" and "[192.168@1.1](#)" are **invalid** IP addresses.

Given a string *s* containing only digits, return all possible valid IP addresses that can be formed by inserting dots into *s*. You are **not** allowed to reorder or remove any digits in *s*. You may return the valid IP addresses in **any** order.

Example 1:

Input: *s* = "25525511135"

Output: ["255.255.11.135", "255.255.111.35"]

Example 2:

Input: *s* = "0000"

Output: ["0.0.0.0"]

Example 3:

Input: *s* = "101023"

Output:

["1.0.10.23", "1.0.102.3", "10.1.0.23", "10.10.2.3", "101.0.2.3"]

Case 2:

Given an integer array `nums` of length `n` and an integer `target`, find three integers in `nums` such that the sum is closest to `target`.

Return *the sum of the three integers*.

You may assume that each input would have exactly one solution.

Example 1:

Input: `nums = [-1,2,1,-4]`, `target = 1`

Output: 2

Explanation: The sum that is closest to the target is 2. ($-1 + 2 + 1 = 2$).

Example 2:

Input: `nums = [3,2,-4,-1]`, `target = -4`

Output: -3

Explanation: The sum that is closest to the target is 2. ($2 + -4 + -1 = -3$).

Case 3:

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.

Example 1:

Input: `nums = [1,2,0]`

Output: 3

Explanation: The numbers in the range `[1,2]` are all in the array.

Example 2:

Input: `nums = [3,4,-1,1]`

Output: 2

Explanation: 1 is in the array but 2 is missing.

Example 3:

Input: `nums = [7,8,9,11,12]`

Output: 1

Explanation: The smallest positive integer 1 is missing.