1. Roman numerals are represented by seven different symbols: I, V, X, L, C, D and M.

Symbol	Value
I	1
V	5
X	10
L	50
C	100
D	500
M	1000

For example, 2 is written as II in Roman numeral, just two ones added together. 12 is written as XII, which is simply X + II. The number 27 is written as XXVII, which is XX + V + II.

Roman numerals are usually written largest to smallest from left to right. However, the numeral for four is not IIII. Instead, the number four is written as IV. Because the one is before the five we subtract it making four. The same principle applies to the number nine, which is written as IX. There are six instances where subtraction is used:

I can be placed before V (5) and X (10) to make 4 and 9.
X can be placed before L (50) and C (100) to make 40 and 90.
C can be placed before D (500) and M (1000) to make 400 and 900. Given a roman numeral, convert it to an integer.

Example 1: Input: s = "III" Output: 3
Explanation: III = 3.

Example 2: Input: s = "LVIII" Output: 58
Explanation: L = 50, V= 5, III = 3.

Example 3: Input: s = "MCMXCIV"
Output: 1994
Explanation: M = 1000, CM = 900, XC = 90 and IV = 4.
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2. Write a function to find the longest common prefix string amongst an array of strings. If there is no common prefix, return an empty string "".

Example 1: Input: strs = ["flower","flow","flight"]
Output: "fl"

Example 2: Input: strs = ["dog","racecar","car"]
Output: "" Explanation: There is no common prefix among the input strings.
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3. Given a string s containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid. An input string is valid if: Open brackets must be closed by the same type of brackets. Open brackets must be closed in the correct order. Every close bracket has a corresponding open bracket of the same type.
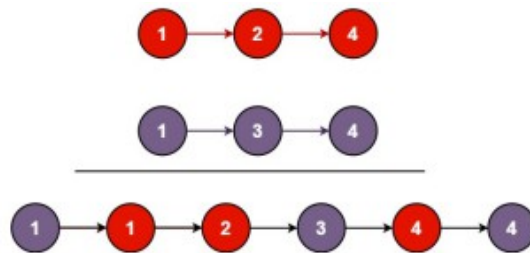Example 1: Input: s = "()"
Output: true

Example 2: Input: s = "()[]{}"
Output: true

Example 3: Input: s = "(]"
Output: false
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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.

Example 1:
Input:
list1 = [1,2,4],
list2 = [1,3,4] ,
Output: [1,1,2,3,4,4]

Example 2:
Input: list1 = [],
list2 = [],
Output: []

Example 3:
Input: list1 = [],
list2 = [0],
Output: [0]
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5. You are given a large integer represented as an integer array digits, where each digits[i] is the ith digit of the integer. The digits are ordered from most significant to least significant in left-toright order. The large integer does not contain any leading 0's. Increment the large integer by one and return the resulting array of digits.

Example 1:
Input: digits = [1,2,3]
Output: [1,2,4]
Explanation: The array represents the integer 123. Incrementing by one gives 123 + 1 = 124. Thus, the result should be [1,2,4].

Example 2:
Input: digits = [4,3,2,1]
Output: [4,3,2,2]
Explanation: The array represents the integer 4321. Incrementing by one gives 4321 + 1 = 4322. Thus, the result should be [4,3,2,2].

Example 3:
Input: digits = [9]
Output: [1,0]
Explanation: The array represents the integer 9. Incrementing by one gives 9 + 1 = 10. Thus, the result should be [1,0].
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