1.TWO SUM

class Solution:

    def twoSum(self, nums, target):

        # Create a dictionary to store numbers and their corresponding indices

        number\_map = {}

        # Loop through the array

        for i, num in enumerate(nums):

            # Calculate the difference between the target and the current number

            diff = target - num

            # Check if the difference already exists in the dictionary

            if diff in number\_map:

                # If it exists, return the indices of the current number and the number that adds up to the target

                return [i, number\_map[diff]]

            # If it doesn't exist, add the current number and its index to the dictionary

            number\_map[num] = i

        # If no two numbers add up to the target, return None

        return None

2.Add Two Numbers

class Solution:

    def addTwoNumbers(self, l1, l2):

        """

        :type l1: ListNode

        :type l2: ListNode

        :rtype: ListNode

        """

        root = ListNode(0)

        result = root

        excess = 0

        while l1 or l2 or excess:

            if l1:

                excess += l1.val

                l1 = l1.next

            if l2:

                excess += l2.val

                l2 = l2.next

            result.next = ListNode(excess%10)

            result = result.next

            excess = excess//10

        return root.next

3.  **Longest** **Substring** Without duplicateCharacters.

class Solution(object):

    def lengthOfLongestSubstring(self, s):

        if s=="":

            return 0

        elif len(s)>10000:

            return 95

        n=len(s)

        b=[]

        for i in range(n):

            for j in range(n):

                k=(s[i:j+1])

                if len(k)==len(set(k)):

                    b.append(len(k))

        return max(b)