Q).Counting Elements

Perform String Shifts

You are given a string s containing lowercase English letters, and a matrix shift, where shift[i] = [directioni, amounti]:

● directioni can be 0 (for left shift) or 1 (for right shift).

● amounti is the amount by which string s is to be shifted.

● A left shift by 1 means remove the first character of s and append it to the end.

● Similarly, a right shift by 1 means remove the last character of s and add it to the beginning.

Return the final string after all operations.

Example 1:

Input: s = "abc", shift = [[0,1],[1,2]]

Output: "cab"

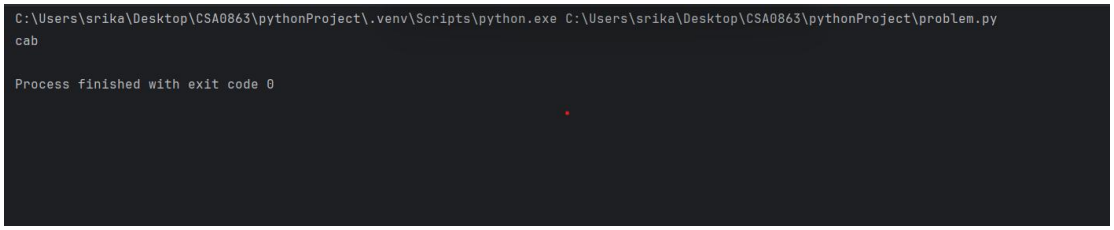
Program:

```
def string_shift(s, shift):
    total_shift = 0
    for direction, amount in shift:
        if direction == 0:
            total_shift -= amount
        else:
            total_shift += amount
    total_shift %= len(s)
```

```
    if total_shift < 0:
        s = s[-total_shift:] + s[:-total_shift]
    elif total_shift > 0:
        s = s[-total_shift:] + s[:-total_shift]
    return s

s = "abc"
shift = [[0, 1], [1, 2]]
print(string_shift(s, shift))
```

Output:



Time complexity:O(n)