32. 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" Explanation: [0,1] means shift to left by 1. "abc" -> "bca" [1,2] means shift to right by 2. "bca" -> "cab" Example 2: Input: s = "abcdefg", shift = [[1,1],[1,1],[0,2],[1,3]] Output: "efgabcd" Explanation: [1,1] means shift to right by 1. "abcdefg" -> "gabcdef" [1,1] means shift to right by 1. "gabcdef" -> "fgabcde" [0,2] means shift to left by 2. "fgabcde" -> "abcdefg" [1,3] means shift to right by 3. "abcdefg" -> "efgabcd"

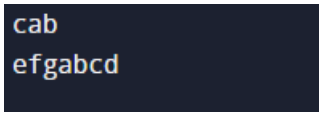
PROGRAM:

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

    if total_shift > 0:
        return s[-total_shift:] + s[:-total_shift]
    else:
        return s[-total_shift:] + s[:-total_shift]
s1 = "abc"
shift1 = [[0, 1], [1, 2]]
print(stringShift(s1, shift1))

s2 = "abcdefg"
shift2 = [[1, 1], [1, 1], [0, 2], [1, 3]]
print(stringShift(s2, shift2))
```

OUTPUT:



TIME COMPLEXITY: O(n)