NatWest Code Test

We appreciate you taking the time to complete this test, hopefully you'll find it interesting too. You can choose the coding language of your choice to provide the solution between JavaScript and Python.

Problem Statement

You are given a string s of lowercase English letters and a 2D integer array shifts where shifts[i] = [$start_i$, end_i, $direction_i$]. For every i, **shift** the characters in s from the index $start_i$ to the index end_i (**inclusive**) forward if $direction_i = 1$, or shift the characters backward if $direction_i = 0$.

Shifting a character **forward** means replacing it with the **next** letter in the alphabet (wrapping around so that 'z' becomes 'a'). Similarly, shifting a character **backward** means replacing it with the **previous** letter in the alphabet (wrapping around so that 'a' becomes 'z').

Return *the final string after all such shifts to s are applied*.

Example 1:

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

Output: "ace"

Explanation: Firstly, shift the characters from index 0 to index 1 backward. Now s = "zac".

Secondly, shift the characters from index 1 to index 2 forward. Now s = "zbd".

Finally, shift the characters from index 0 to index 2 forward. Now s = "ace".

Example 2:

Input: s = "dztz", shifts = [[0,0,0],[1,1,1]]

Output: "catz"

Explanation: Firstly, shift the characters from index 0 to index 0 backward. Now s = "cztz".

Finally, shift the characters from index 1 to index 1 forward. Now s = "catz".