LeetCode 1653: Minimum Deletions to Make String Balanced

A string is balanced if there is no index pair (i < j) such that s[i] = 'b' and s[j] = 'a'. This means all 'a' characters must appear before any 'b'.

Prefix Sum Approach

We try every possible split point in the string. For each split, we delete all 'b' characters on the left and all 'a' characters on the right. The minimum deletions over all splits is the answer.

Example: s = "aababbab"

Index	0	1	2	3	4	5	6	7
Char	a	a	b	a	b	b	a	b
Prefix B	0	0	0	1	1	2	3	3
Suffix A	4	3	3	2	2	1	1	0

At each index i, deletions = PrefixB[i] + SuffixA[i]. The minimum value across all i is 2.

Time Complexity: O(n)

Space Complexity: O(n)