1422: Maximum Score After Splitting a string

string 's' only consists "0" and "1"

split a string in such a way that sum of zeros on left substring and sum of ones on the right substring is maximum. [And substrings cannot be empty]

s = "011101"

L = "0" R = "1101"

1 + 4 ⇒ 5

(1) Two pass approach

- count the total number of ones;
- then iterate over each position from left to right

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if char == "0" : zeros += 1
else : ones -= 1
max_score = max(max_score, zeros + ones)
```

(2) One pass approach

- If we iterate from left to right we would know the total ones at the end. (So no need to calculate it explicitly)
- At any position, score can be calculated by.

$$score = Z_L + O_T - O_L$$

Z_L: zeros on left; O_T: total ones (this is constant); O_L: ones on the left.

- We can iterate from left to right and calculate $Z_L - O_L$ find the maximum value for $Z_L - O_L$.

And at the end add O_T. You have the answer.