Maximum XOR Score Subarray Query :

arr: a , b , c , d , e

a^b b^e c^d d^e

a^c b^d c^e

a^c^b^d b^d^c^e

a^e → XOR-recursive of subarray [a, b, c, d, e]

XOR-score of subarray [a,b,c,d,e] = max (XOR-recursive of all subarrays of [a,b,c,d,e])

Insights:

① XOR-rec[i][j] = XOR-rec[i+1][j] ^ XOR-rec[i][j-1]

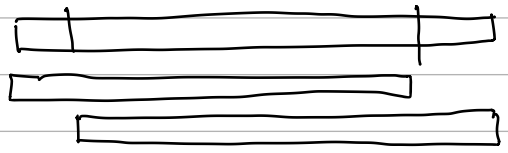
0	1	2	3	4
a	b	c	d	e
ab	bc	cd	de	
ac	bd	ce		
a^c^b^d	b^d^c^e			

⟷

0	1	2	3
a	b	c	d
ab	bc	cd	
ac	bd		
a^c^b^d			

1	2	3	4
b	c	d	e
bc	cd	de	
bd	ce		
b^d^c^e			

② XOR-score[i][j] = max (XOR-rec[i][j] , XOR-score[i+1][j] , XOR-score[i][j-1])



a b c d e f

either in [a, b, c, d, e]

or in [b, c, d, e, f]

or XOR-rec[a, b, c, d, e, f]

0 Strange Printer:

a a a b b c c b b b a a a   or   a a a b b c a a c

a - - - - a
b . . . . b
c c
} 3

4 {
a a a
b b
c c c c
a a

dp[i][j] = max(dp[i][j-1], dp[i+1][j])
↳ if s[i] == s[j]

else   dp[i][j] = min({dp[i][k] + dp[k+1][j]})   k = i, k<j