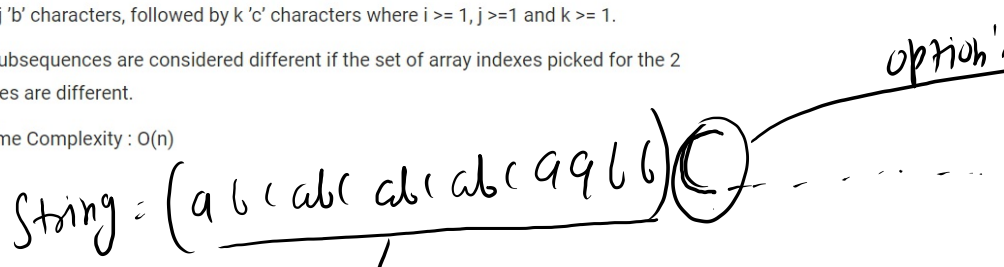
Number of subsequences of the form a^i b^j c^k

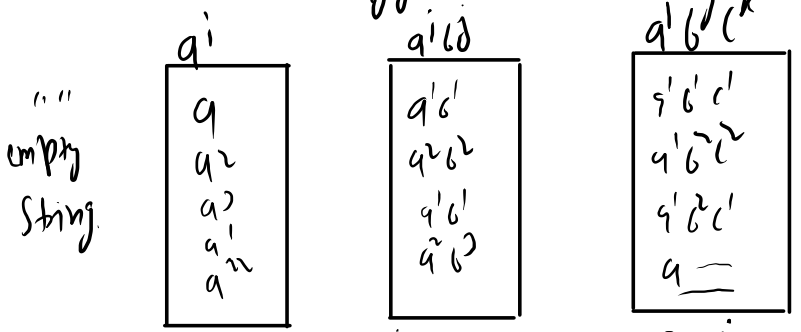
Given a string, count number of subsequences of the form $a^ib^jc^k$, i.e., it consists of i 'a' characters, followed by j 'b' characters, followed by k 'c' characters where i >= 1, j >=1 and k >= 1.

Note: Two subsequences are considered different if the set of array indexes picked for the 2 subsequences are different.

Expected Time Complexity : O(n)



(suppose iska answer aaaa hai)



aCount

> isme bs a^i form ke string hai.

> every 'a' charcater aCount mai sirf 'a' pe khatam hone wale subsequnce store krega.

bCount

> isme bs a^ib^j form ke string hai.

> every 'b' charcater bCount mai sirf 'b' pe khatam hone wale subsequnce store krega.

cCount

> isme bs a^ib^jc^k form ke string hai.

> every 'c' charcater cCount mai sirf 'c' pe khatam hone wale subsequnce store krega.

agar 'c' nahi ana chhata hai to vo ese answer store krvayega jisme pattern a^ib^jc^k pe khatam ho. jo 'c' pe khatam ho.

agar c aana chhata hai to bhi vo a^ib^jc^k wale pattern ka count store krvayega. jo 'c' pe khatam ho

(ccount) + (ccount + bcount)

$a^ib^jc^k$ + ($a^ib^jc^{(k+1)}$ + $a^ib^jc^1$)

abhi tak ka a^ib^jc^k ese hi ajyega.

abhi tak ke (a^ib^jc^k) ke peeche ek 'c' or add hoga and ye pattern bnjyega a^ib^jc^(k+1)

abhi tak ke a^ib^j ke sath 'c' laag ke ek a^ib^jc^1 wale pattern generate krega.

same for b -> a^ib^j ye pattern chahiye. (bcount + (bcount + acount)) - (exclude + include)
same for a -> a^i ye pattern chahiye. (acount + (acount + emptyString)) - (exclude + include)