

Q

String root

String = "memmemmemmem"

the no. of times the smallest packet is repeated to form the entire string

ans → 4

length of packet = x



length of string = 4x

x x x

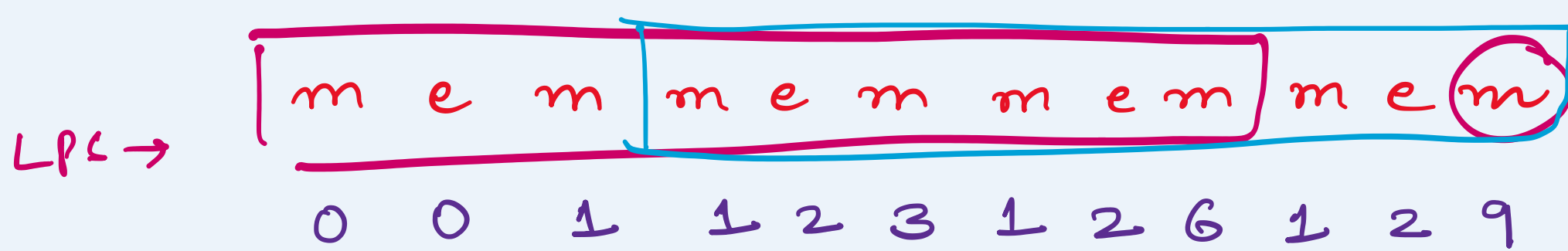
x x x

LPS → 3x

LPS

$$= \frac{\text{string length} - \text{LPS}}{\text{string length} - \text{LPS}}$$

$$= \frac{4x}{4x - 3x} = \frac{4x}{x} = 4$$



$$\frac{12}{12 - 9} = \frac{12}{3} = 4$$

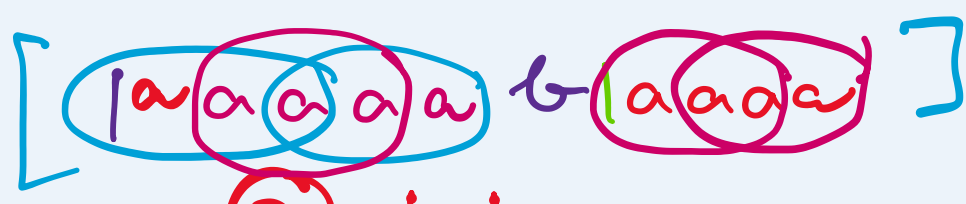
$$\frac{3 \times 4}{3 \times 4 - 3 \times 3} = \frac{4}{1} = 4$$

Q

Diane Codeforces

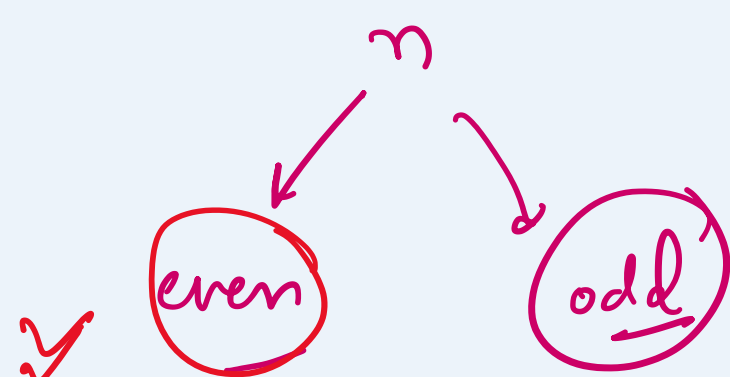
3 + 2 + 3

n = 10



2 + 1

n char
lowercase
all substrings must be odd no. of times



1 a a a a - 2
+ 1
→ 3

even + odd → odd
odd + even → odd

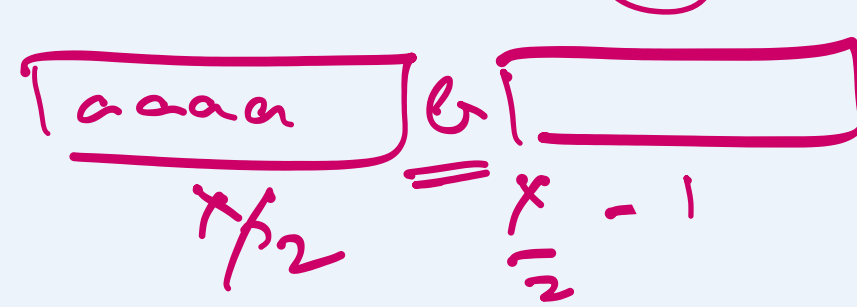
n = 11

[a a a a b e a a a a]

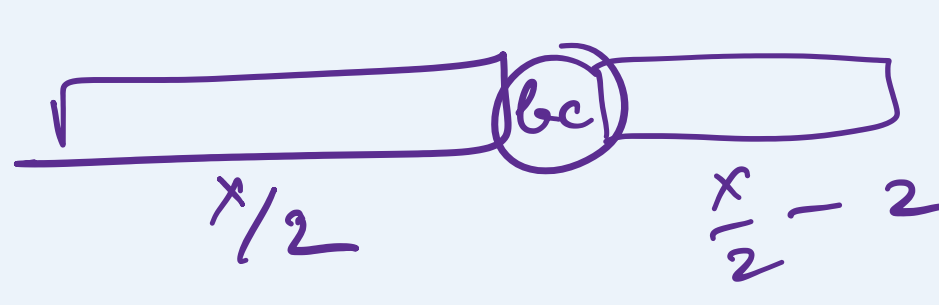
n

n → even

10



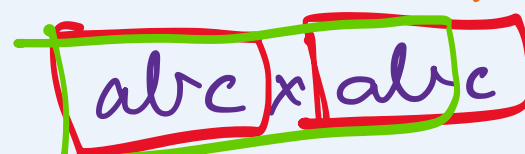
x - odd



Q

Given a string, longest prefix suffix. (proper prefix)

SC → O(1)



ans → 3

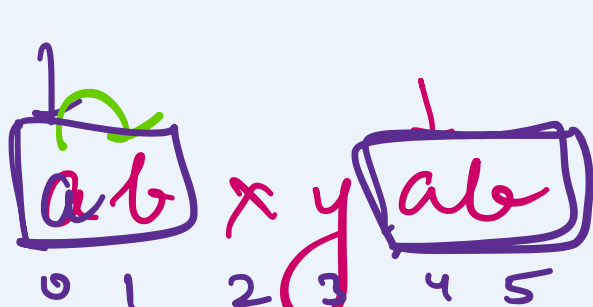
Rolling Hash



P = 31

$$ph = (p_{ph} \times p + (s[i] - 'a' + 1) \times p^{i-1}) \times p$$

$$sh = (p_{sh} + (s[n-1-i] - 'a' + 1) \times p^{i-1}) \times p$$



$$ph = 1 \quad ph = (1 \times 31 + 2) = 33$$

$$sh = 2 \quad sh = (2 + (1 \times 31)) = 33$$