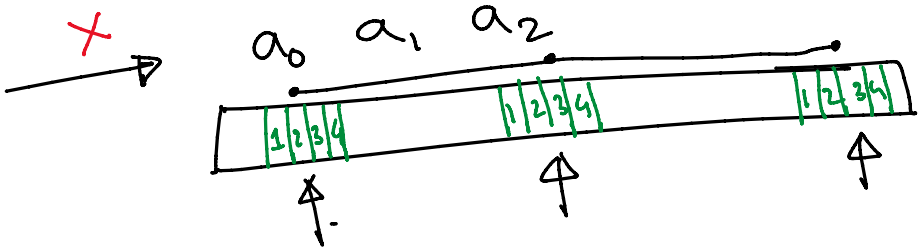
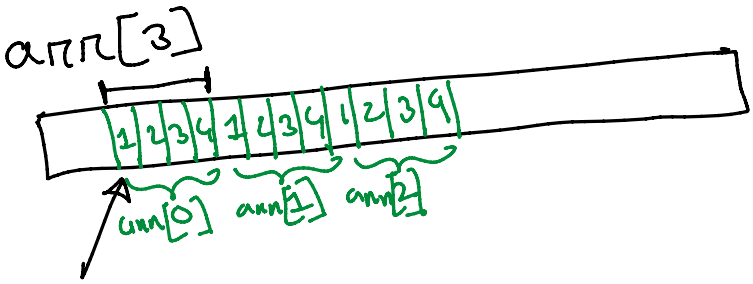
Class 06

Friday, January 22, 2021 9:59 PM



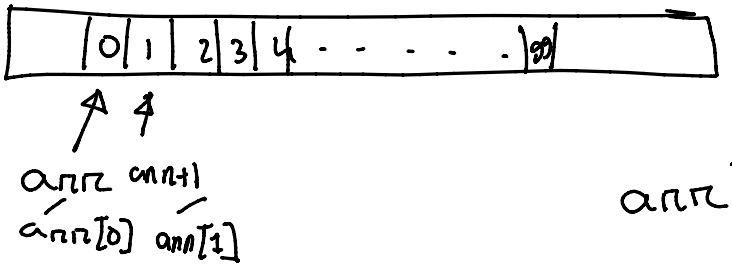


arr[0] / arr

arr[1] / arr+1

arr[2] / arr+2

int arr[100];



arr[i]

int arr[100005];

$1 \le N \le 10^5$

— o —

Sub-sequence

devskill → $2^8 - 1$

len	#
1	$^8C_1$
2	$^8C_2$
3	$^8C_3$
4	$^8C_4$
5	$^8C_5$
6	$^8C_6$
7	$^8C_7$
8	$^8C_8$

$(2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2) - 1 = 2^8 - 1$

$\binom{n}{0} + \binom{n}{1} + \binom{n}{2} + \binom{n}{3} + \cdots\cdots + \binom{n}{n} = 2^n$

$\binom{n}{1} + \binom{n}{2} + \cdots\cdots + \binom{n}{n} = 2^n - \binom{n}{0} = 2^n - 1$

6 $^6C_6$

7 $^8C_7$

8 $^8C_8$

$\binom{n}{1} + \binom{n}{2} + \dots + \binom{n}{n} = 2^n - \binom{n}{0} = 2^n - 1$

— o —

S , s

Ex 1: S_1 = "abcde"

s_2 = "be"

Output : 1

Ex 2: S_1 = "abcde"

s_2 = "ba"

Output: 0

S_1 = "abcdez"

s_2 = "ba"

$O(|S_1| + |s_2|)$

$n \cdot n = n^2$

$|S_1| \cdot |S_2|$

1000×1000

10^6

greenp = 2

$n + n = 2n = n$

$|S_1| + |S_2|$

$10^3 + 10^3$

2000

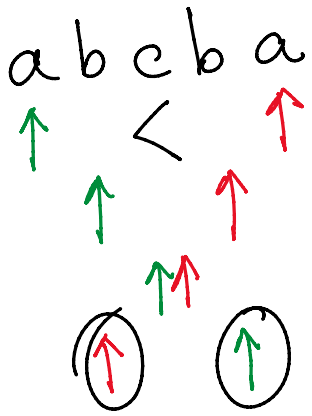
$10^6 \times 10^6 = 10^{12}$

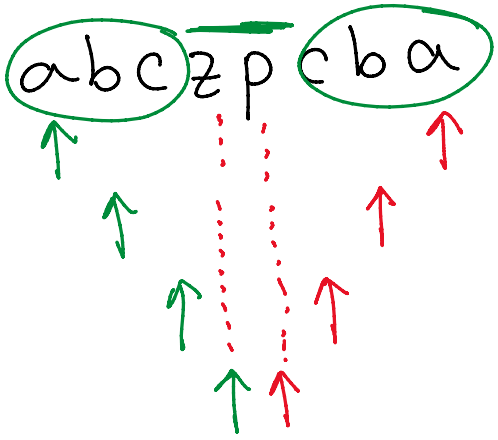
$10^6 + 10^6 = 2 \times 10^6$

— o —

Palindrome

Palindrome





—o—

Substring

dev devskill → $\frac{n(n+1)}{2}$

len	
1	d, e, v → 3
2	de, ev → 2
3	dev → 1

1+2+3=6

$1+2+3+4+5 = \frac{5\times 6}{2}$

$= 15$

Ex? ?

S_1, S_2

Determine whether S2 is a substring of S1?

—o—

a b c d

1 1 1 1

Anagram

$S_1 \rightarrow$ dcba

a b c d

$S_1 \rightarrow dcba$

$S_2 \rightarrow badc$

a b c d

↓ ↓ ↓ ↓