

all the possible Subseq. of type $a^i b^j c^k$ where $i, j, k \geq 1$

$aa_1 b_1 c_1$
 $a_1 b_1 c_1$
 $ab_1 c_1$
 $abb_1 c_1$
 abc_1
 $abcc_1$
 abc

	-	a ↑	b ↑	c ↑	a ₁ ↑	b ₁ ↑	c ₁ ↑
a+	0	a 1	a 1	a 1	aa ₁ a ₁ a <u>2*a-count+1</u> 2	aa ₁ a ₁ a ②	aa ₁ a ₁ a
a+b+	0	0	ab 1	ab 1	ab 1	ab ₁ 3 ab ₁ 1 ⑤ 1 <u>2*b-count+1</u>	aa ₁ b ₁ a ₁ b ₁ ab ₁ abb ₁ ab 5
a+b+c+	0	0	0	abc 1	abc 1	abc 1	abc 1 c ₁ c ₁ ⑦ <u>2*c-count+b-count</u>

Implementation. →

a b c a b c



$$a_count = \cancel{0} \neq 3$$

$$b_count = \cancel{0} \neq 5$$

$$c_count = \cancel{0} \neq 7$$

7

2 2 2 1

count possible abc

$$a \rightarrow 2 * a_count + 1$$

$$b \rightarrow 2 * b_count + a_count$$

$$c \rightarrow 2 * c_count + b_count$$

$$1 + 2 + \dots + 1000$$

Fix 1000 sum

$$\frac{n(n+1)}{2} = \frac{1000 \times 1001}{2}$$

$$= 500 \times 1001$$

Max. Sum Non Adjacent Elements

- ① Storage
- ② Meaning
- ③ Direction & Traversal

5 10 10 100 5 6

Exclude

Include

0	→ max 5	→ max 10	* 15	110	110
5	↘ 10	↘ 15	# 110	20	116

Maximum from inclusion & exclusion =

*} → max sum including 100
 #} → max sum excluding 100

Paint House - I

Colour - 3 (Red, Green, Blue)

House - n.

Cost to
paint
House.

	R	G	B
1	1	5	7
2	5	8	4
3	3	2	9
4	1	2	4

Min. Cost to paint all
House. → No
two adjacent
House have
same colour

	R	G	B
1	1	5	7
2	10	* 9	2
3	8	7	18
4	8	10	11

→ min- (5)
] → min- (7)
] → G B R
 (8)

*] → Min cost to paint 2nd house
with Green Color.

Paint House-II

k-color,

n-House

Colors → C₁ C₂ C₃ C₄ C₅ C₆

House ↓

1.	5	3	7	2	5	4
2.	11	4	8	7	9	1
3.	17	2	4	13	10	8
4.	21	6	15	9	7	3
5.	7	4	14	15	16	9
6.	12	15	11	5	6	8

House 1.

C ₁	C ₂	C ₃	C ₄	C ₅	C ₆
5	3	7	2	6	4
12	6	10	10	11	3
20	5	7	16	13	14
26	12	20	14	12	8
15	12	22	23	24	21
24	30	23	17	18	20

min
second
min

min = 17

↔

10	20	9	3	7	15	4
----	----	---	---	---	----	---

min ?

second min ?

10	20	9	3	7	2	4
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```

for(int val: arr) {
    if(min > val) {
        sec = min;
        min = val;
    } else if(sec > val) {
        sec = val;
    }
}

```