Q 1 Sweet dish

N ingredients

A :

B , C

Count the no. of subsets which have at least one prime no. & the sum of sub-set should be b/w B & C.

A : [2, 4, 5]

B : [3.

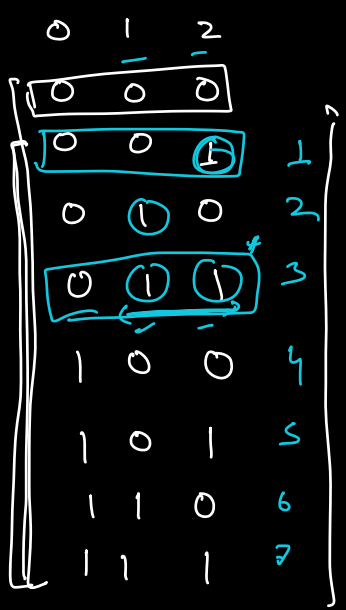
C : [7.

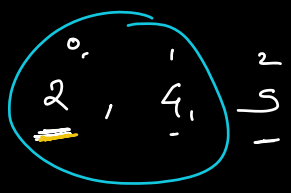
[2] ~~[4]~~ [5]

[2, 4] [2, 5] [4, 5]

[2, 4, 5]

=> 3





10

Bit Mask	1	2	3	4
Sum	2	4	6	5

Ans: ∅ / 2

0 1 1 — 5

Sum = [2+4]

A: [2, 4, 5] ∈ NJN

IsP: T F T

Bus Dilemma

A: [2, 1, -6] — max

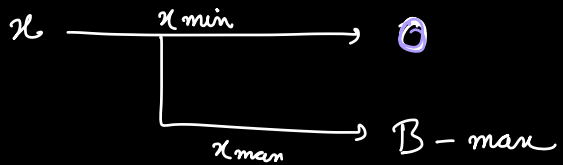
B: 5

0, 1, 2 ⇒ 3

$P_{min} = 0$ $P_{max} = B$

3 = (0 ✓, 1 ✓, 2 ✓)

3 ✗



[0, B - max]

(x) [1 | 3 | -2 | 1]

$B \geq x + max$

$x \leq B - max$

$x_{max} = B - max$

[1, 2, -4, 2, -1]

B = 4

$x \leq 50$

x_{max}

[-4, 2, 1, -3]

B = 5

-4 ⇒ 4, 5

[-3, 2, -4, -1, -5]

B = 21

$x_{min} = 11$

$x_{max} = 21$

TC : O(N)

SC : O(1)

B-max

21 - (-1) ✗

= 22

[-3, 2, -4, 10, 2]

B = 18

$x_{min} = 5$

$x_{max} = 18 - 7 = 11$

[5, 11]

[1, 3, -4, 5]

B = 5

$x_{min} = 0$

$x_{max} = 0$

[0, 0]

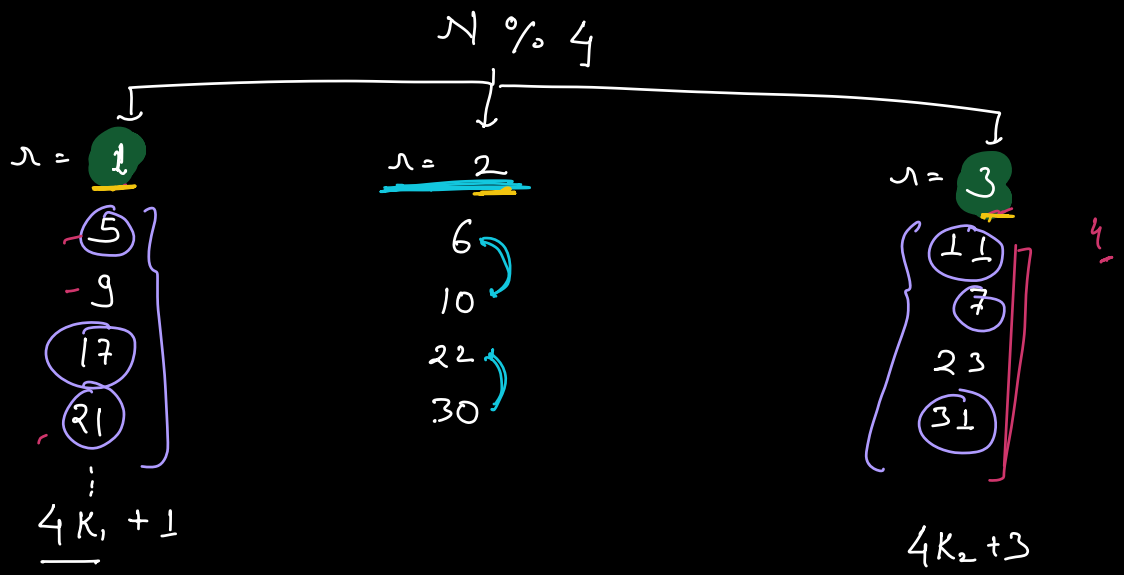
[a, b] = b - a + 1

Fantastic Four

A: [4, 4, 4, 4] ⇒ 2

[4, 16, 132, 24, 7, 21, 28]

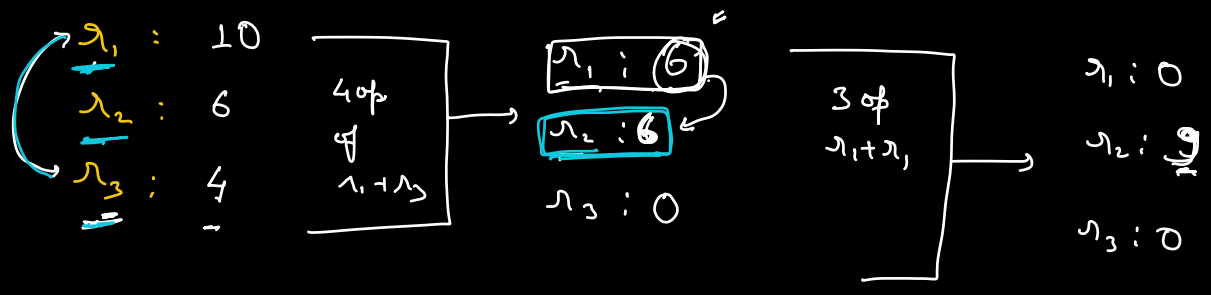
[3, 1, 2, 4]

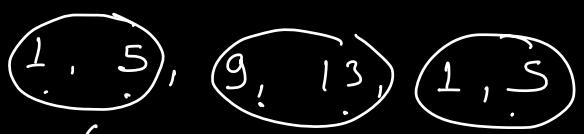


$4K_1 + 1 + 4K_2 + 3$

$4K_1 + 4K_2 + 4$

$4(K_1 + K_2 + 1)$





r_1 : $4K_1 + 1$

$4K_1 + 1 + 4K_2 + 1$

$= \boxed{4(K_1 + K_2) + 2}$

r_3 : $4K_1 + 3$

$4(K_1 + K_2) + 3 + 3$

$4(K_1 + K_2) + 4 + 2$

$4(K_1 + K_2 + 1) + 2$

r_2

Ans = 0

Step I Count r_1, r_2 r_3;

Step II

$Ans \mathrel{+}= \min(r_1, r_3)$

$r_1 = r_1 - \min(r_1, r_3)$

$r_3 = r_3 - \min(r_1, r_3)$

$left = \max(r_1, r_3)$

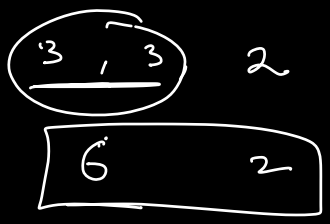
Step III if (left is odd) not false

$Ans \mathrel{+}= left/2$

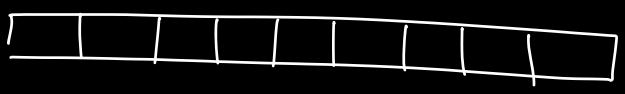
$r_2 \mathrel{+}= left/2$

Step IV if (r_2 is odd) not false

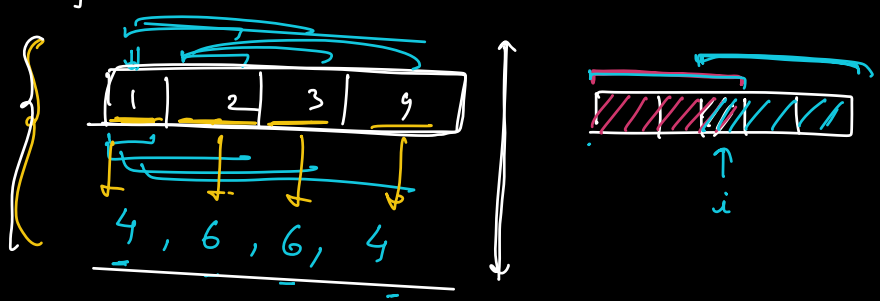
$Ans \mathrel{+}= r_2/2$



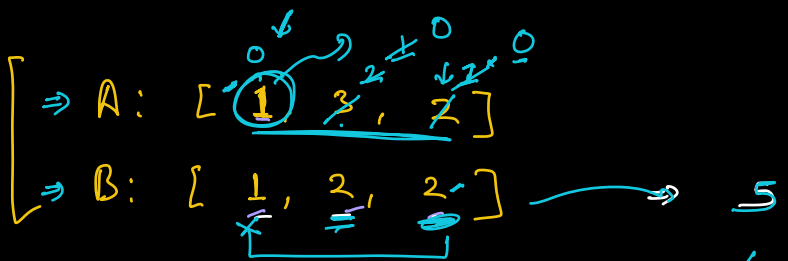
Travelling Businessman



A : 4

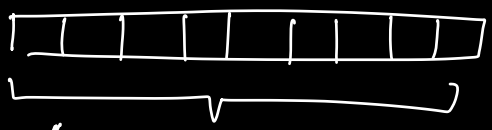


Find the count of sub arrays in which an element will occur.



A : [1 2 , 10]

B : [1 , 1 , 1]



A : A_i A_j

B : B_i B_j

Transfer i : $A_i(B_i + B_j) + A_j \times B_j$

Transfer j : $A_j(B_i + B_j) + A_i \times B_i$

$A_i(B_i + B_j) + A_j B_j \square A_j(B_i + B_j) + A_i B_i$

$A_i B_i + A_i B_j + A_j B_j$ $\qquad$ $A_j B_i + A_j B_j + A_i B_i$