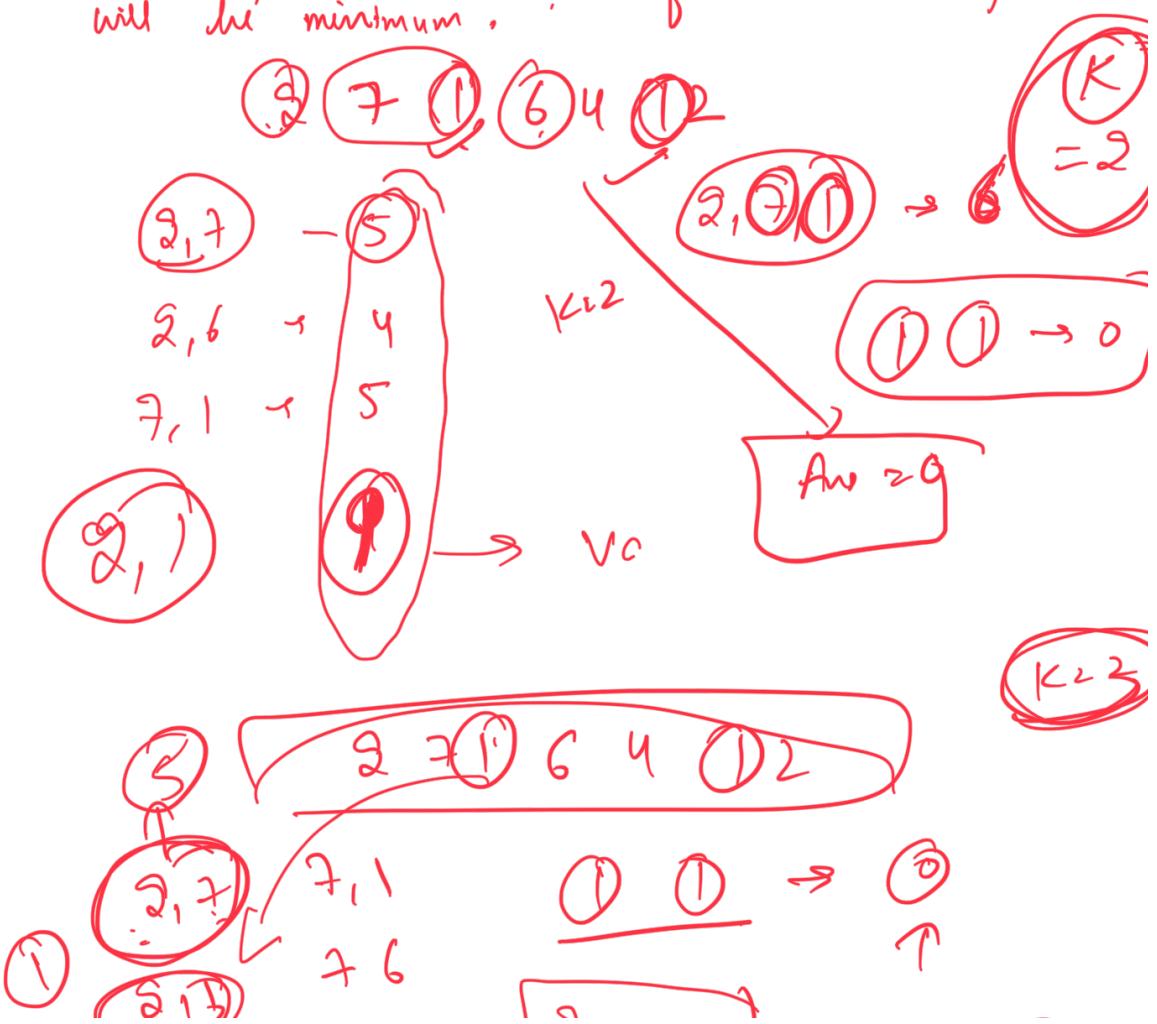


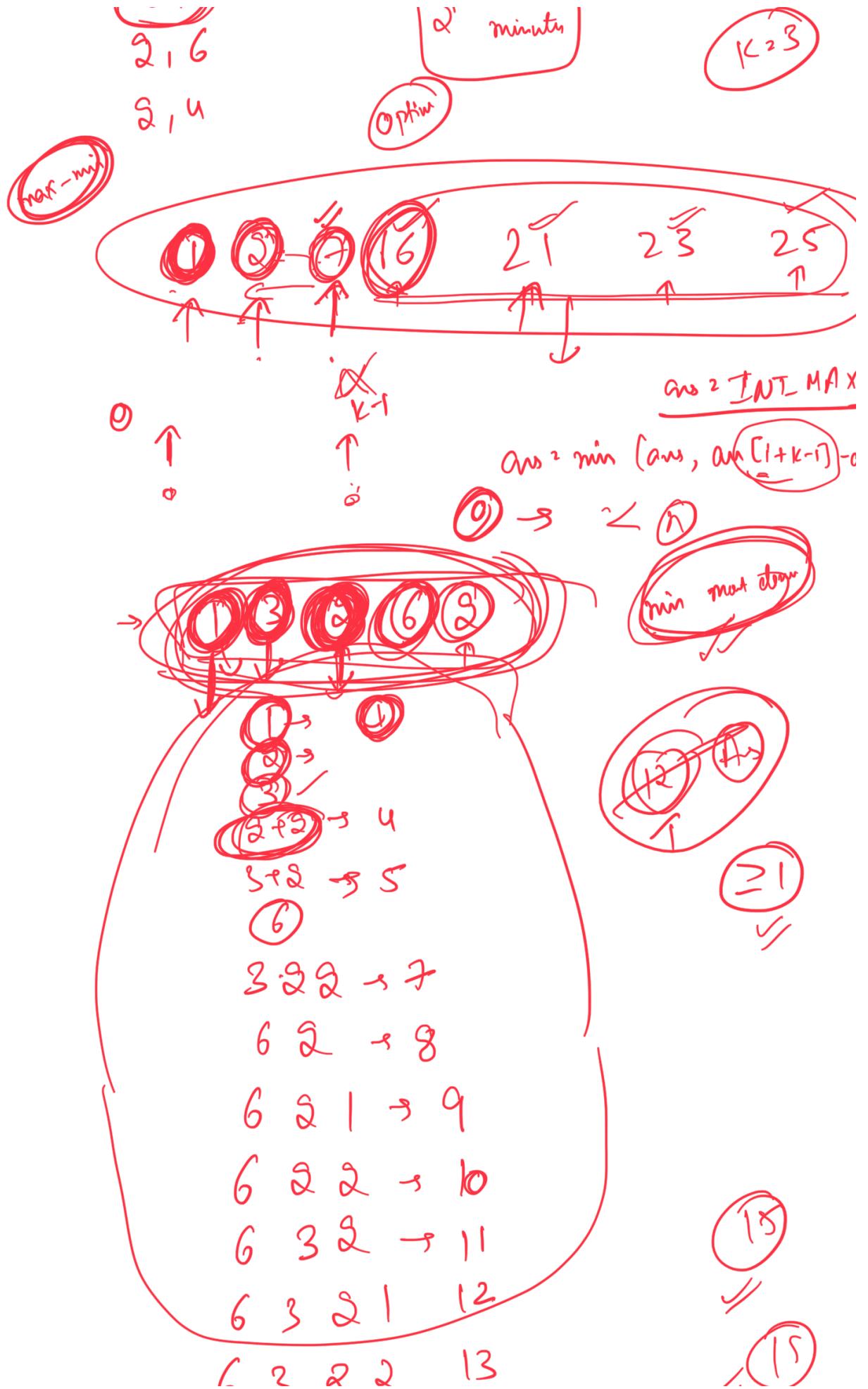
Agenda

Problem Solved

- We will start with basic question
- Exchange Argument
- We will solve some questions regarding that front

Assume you have been given an array of integers and now you need to pick K integers from the array such that maximum of those integers - minimum of those K integers is minimum.





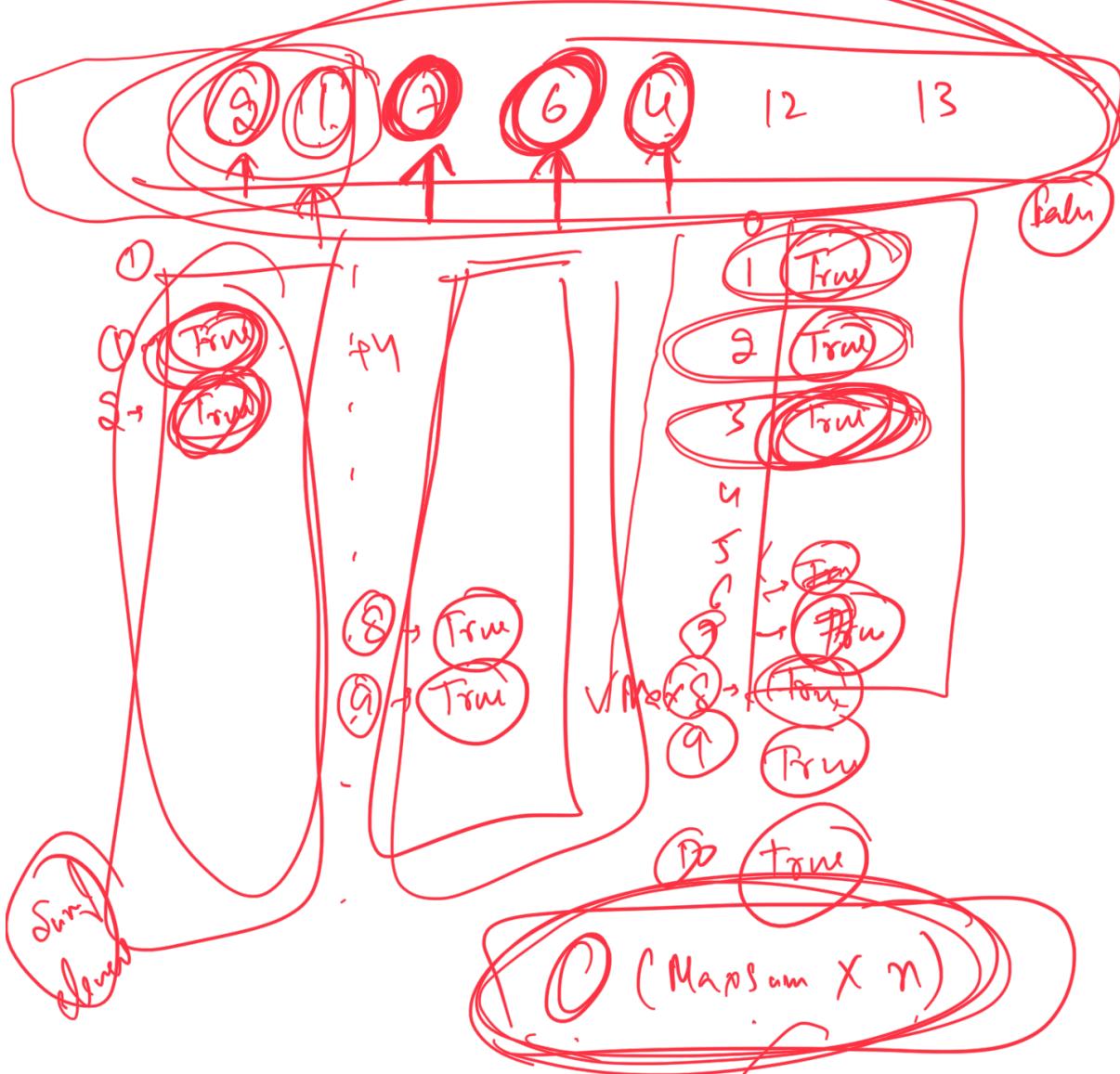
0 → ...
6 3 2 2 1 14

c) → ...

2-3 minutes

→ Approach)

→ Strate over all the elements
Store the sum in some array -
which ever element is not present
is not present that will be our

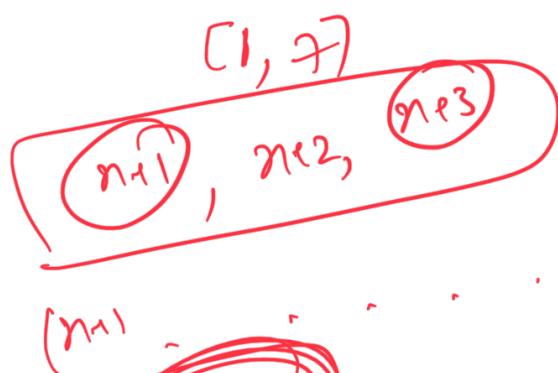
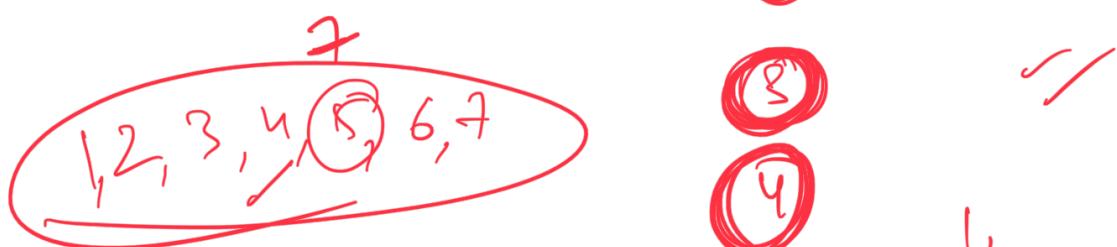
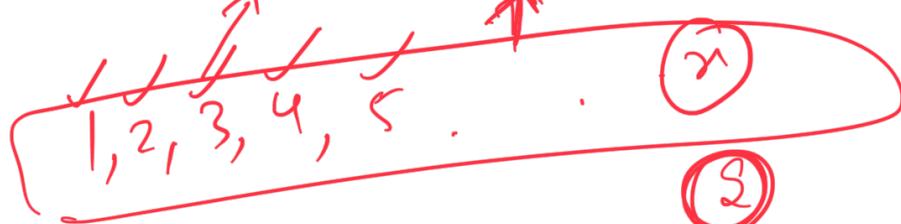
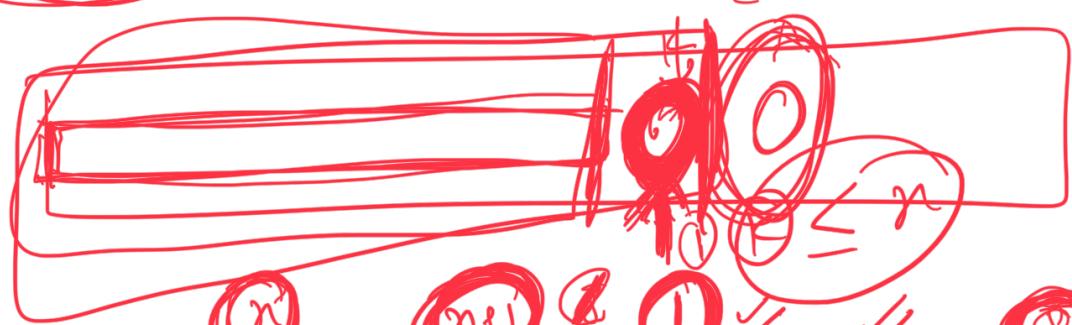
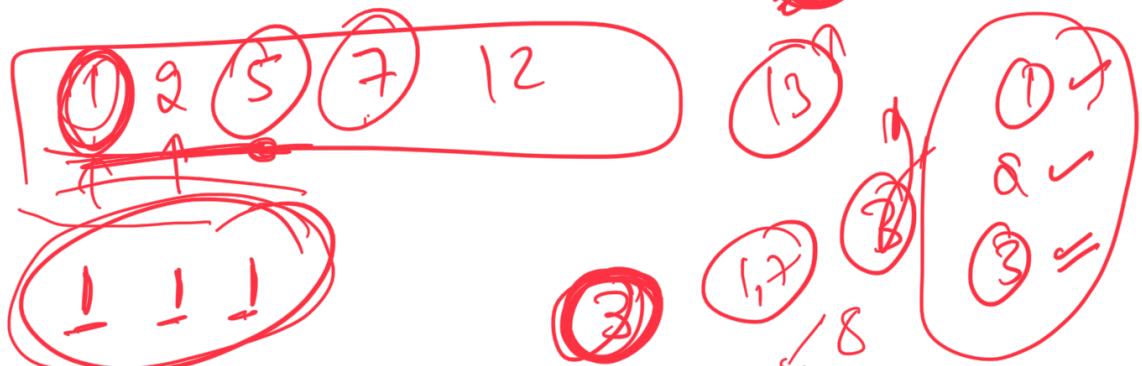


From → Now just minimum search element

+ very - non recursive form minimum many elements

$O(Marsm + n)$

Can we optimize this?



\circ

$n \cdot k + 1$

$n \cdot k + 1$

~~1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100~~

$m = 1$

$O(n \log n)$

≤ 0

$+ P$

1

2

3

$1, 2, 3$

~~1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100~~

$Q + P \leq 1$

$n + k$

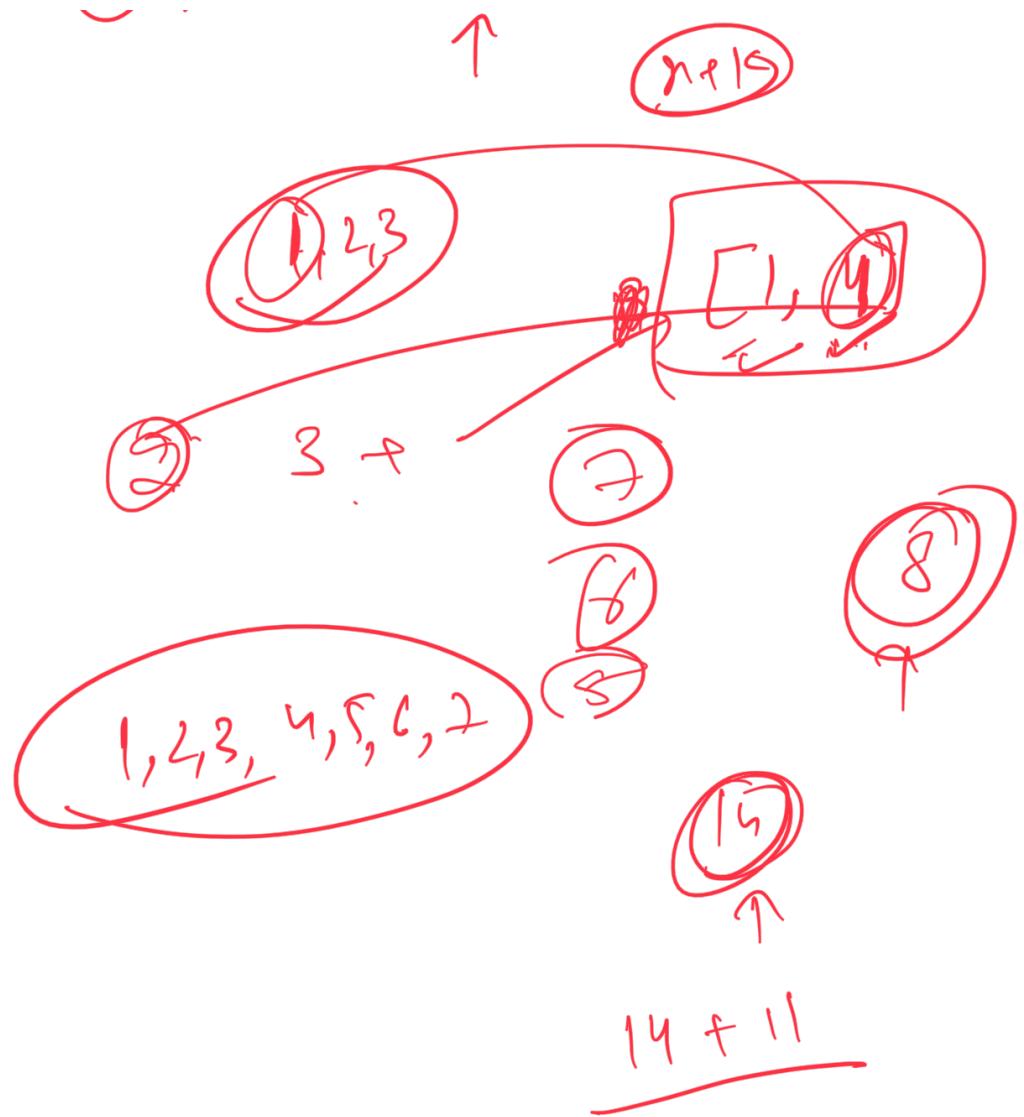
$1 +$

4

5

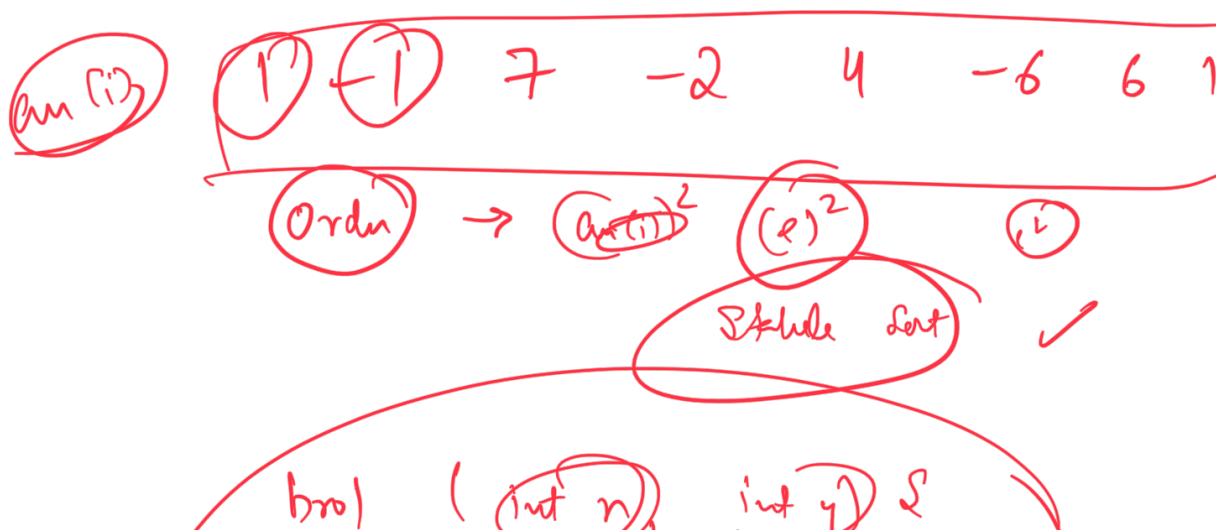
6

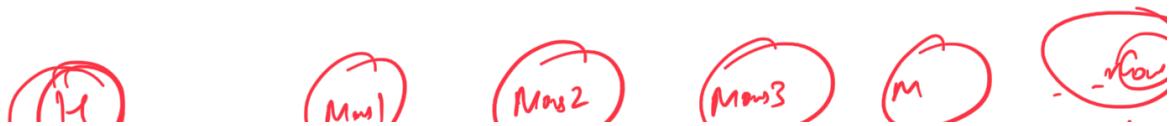
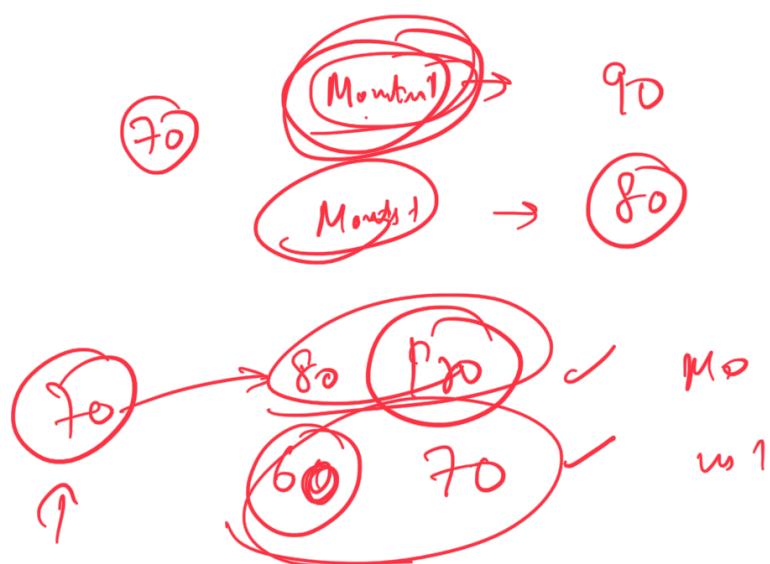
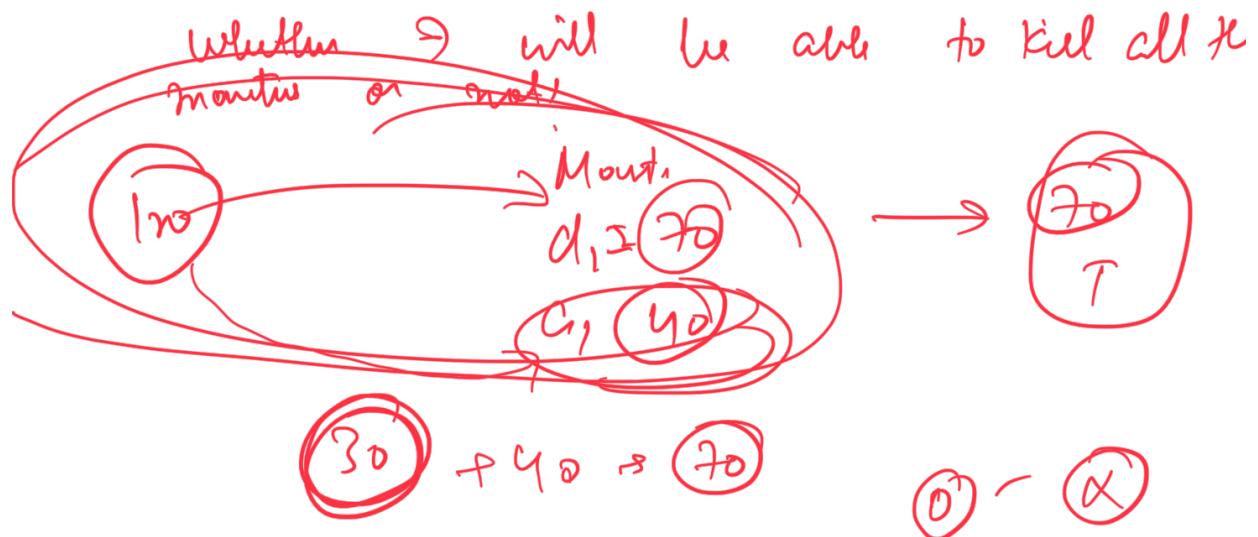
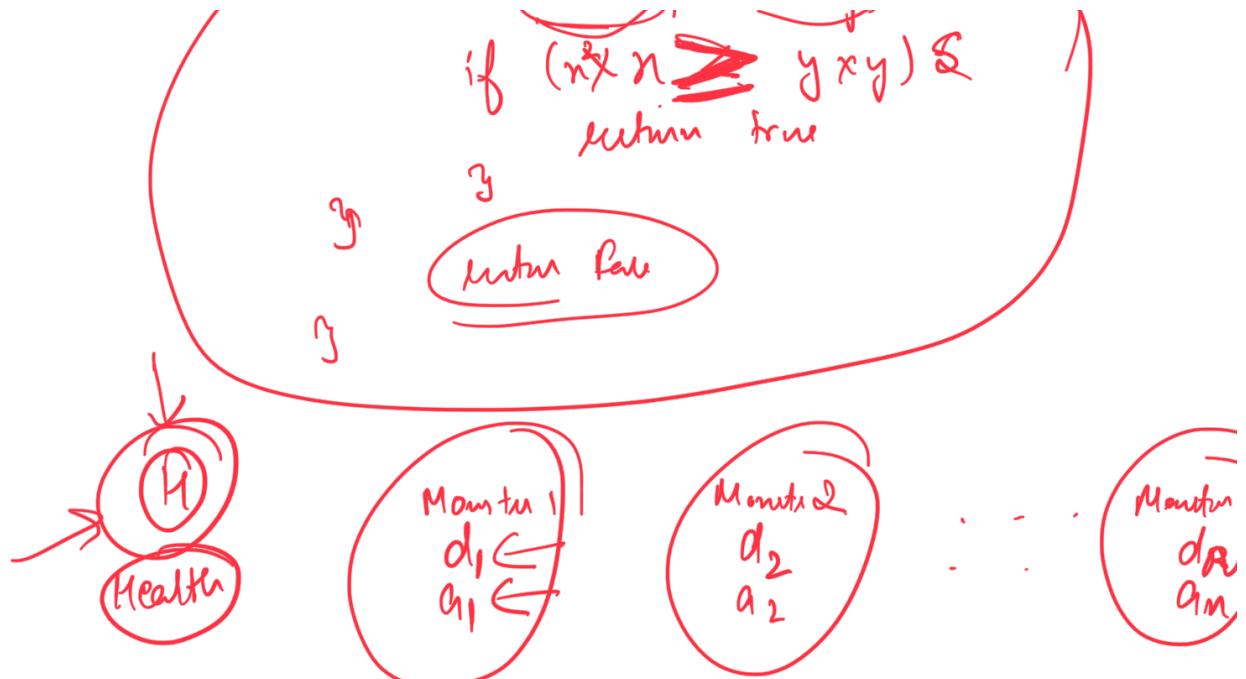
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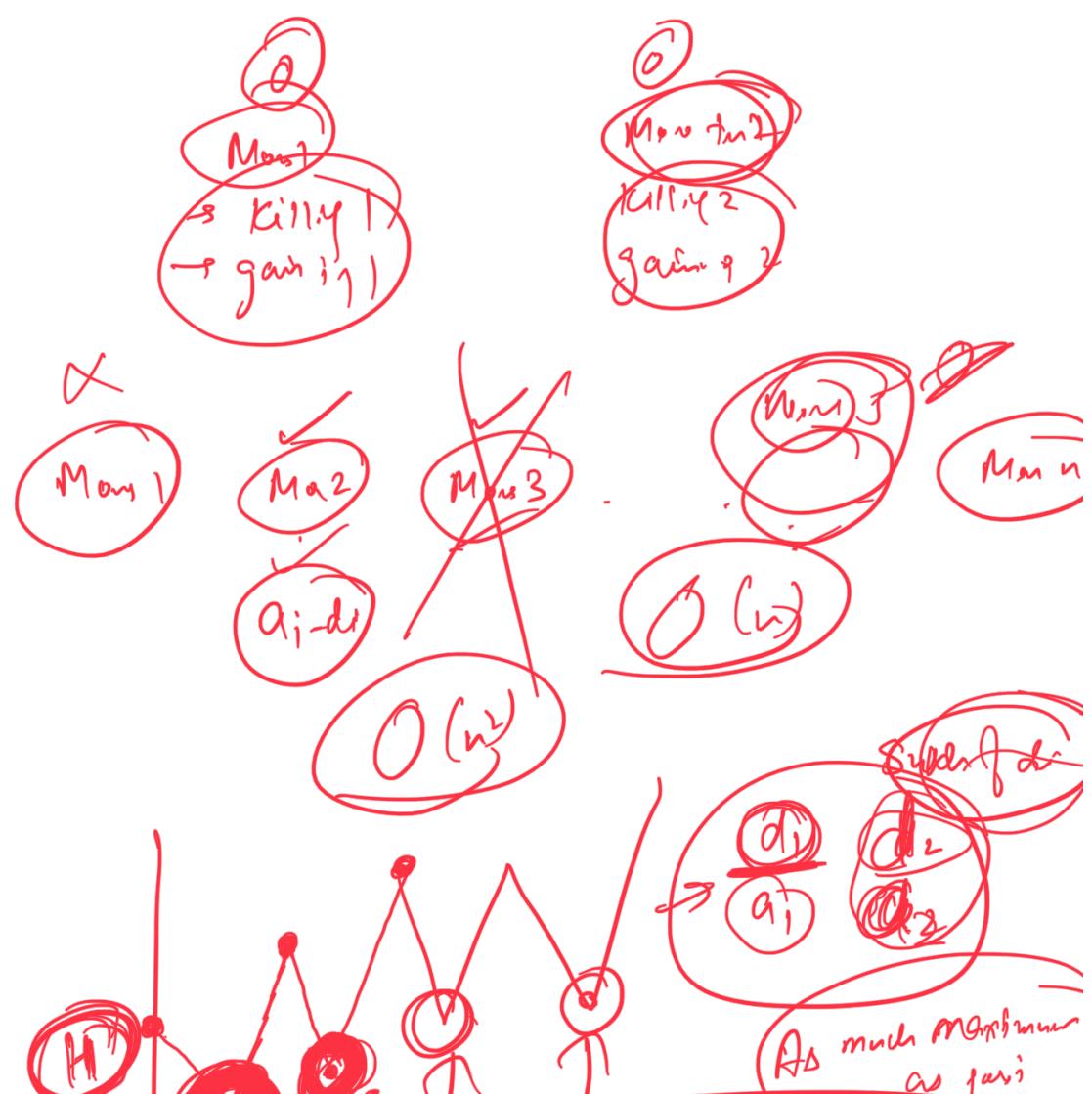
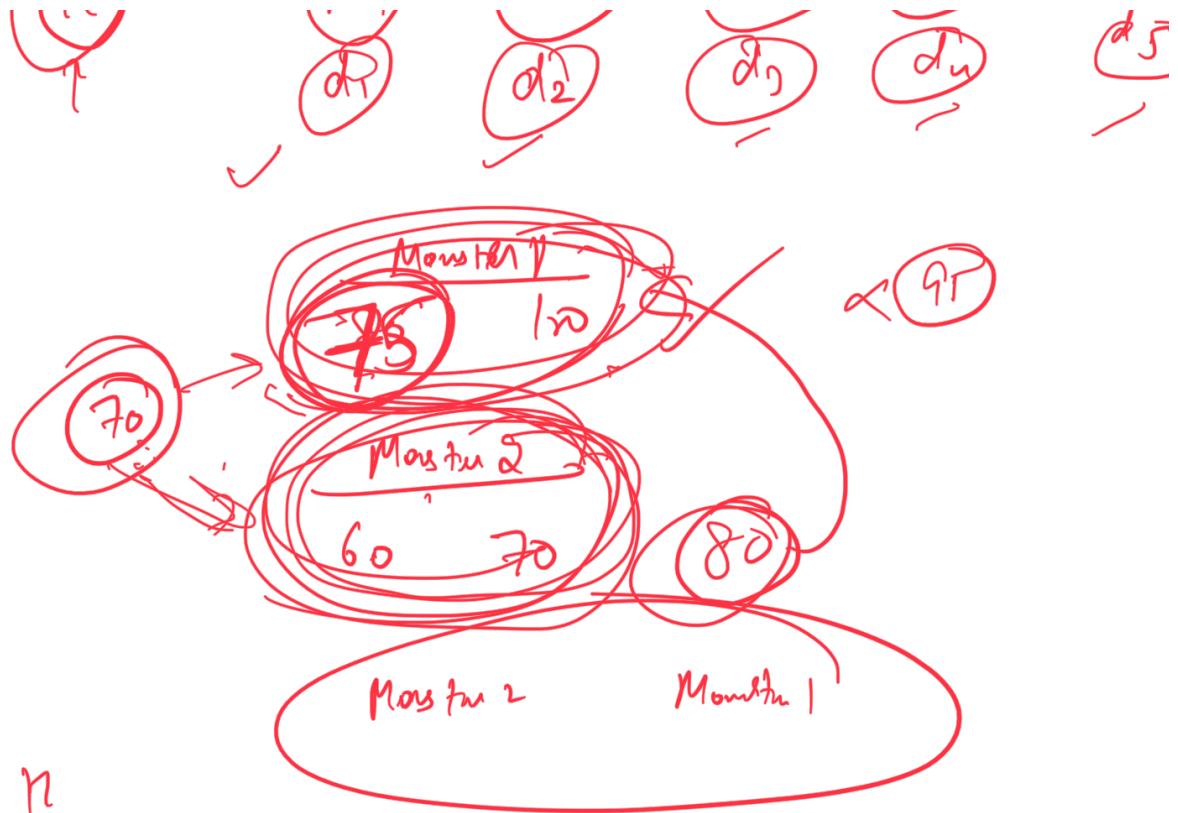


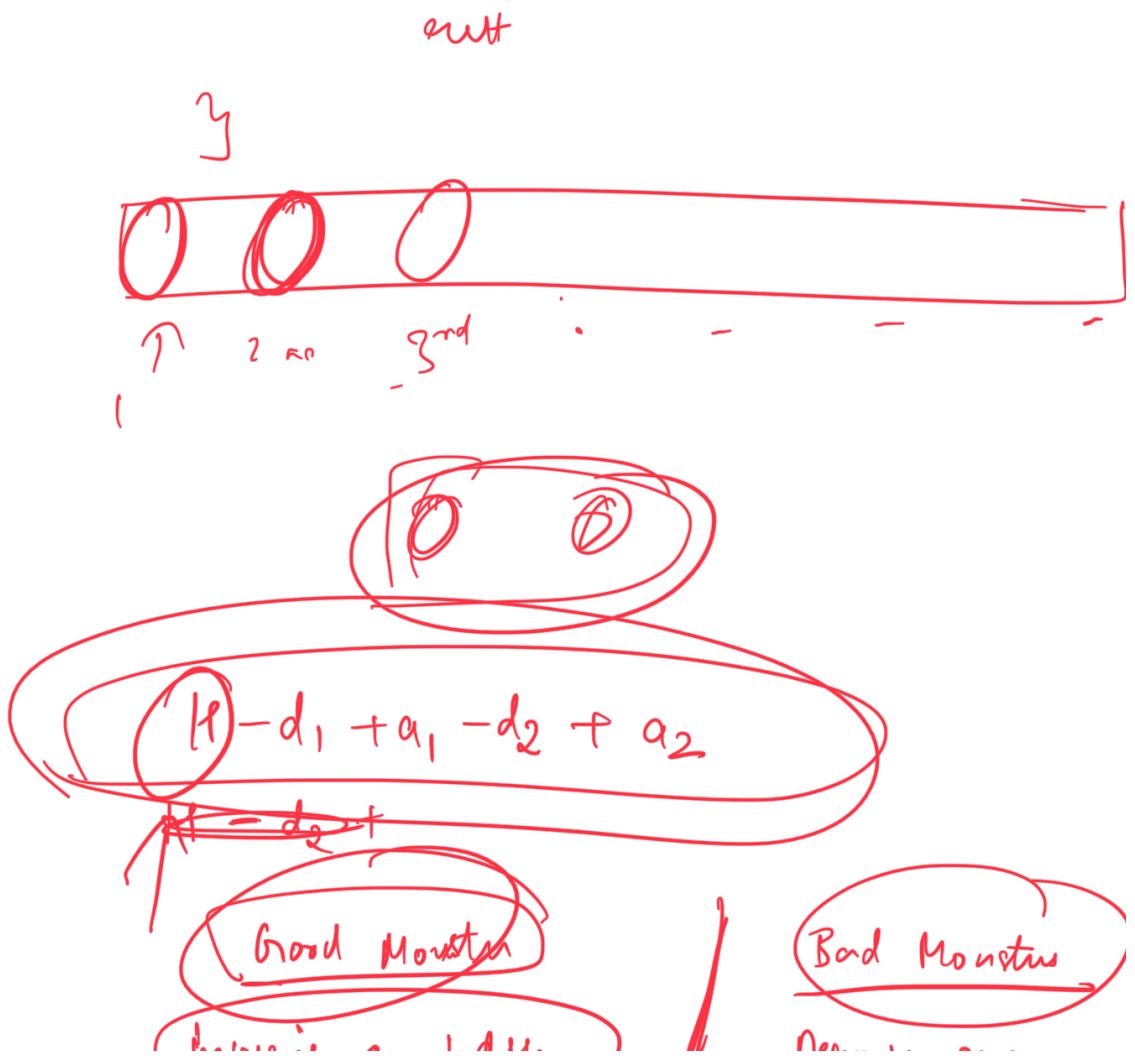
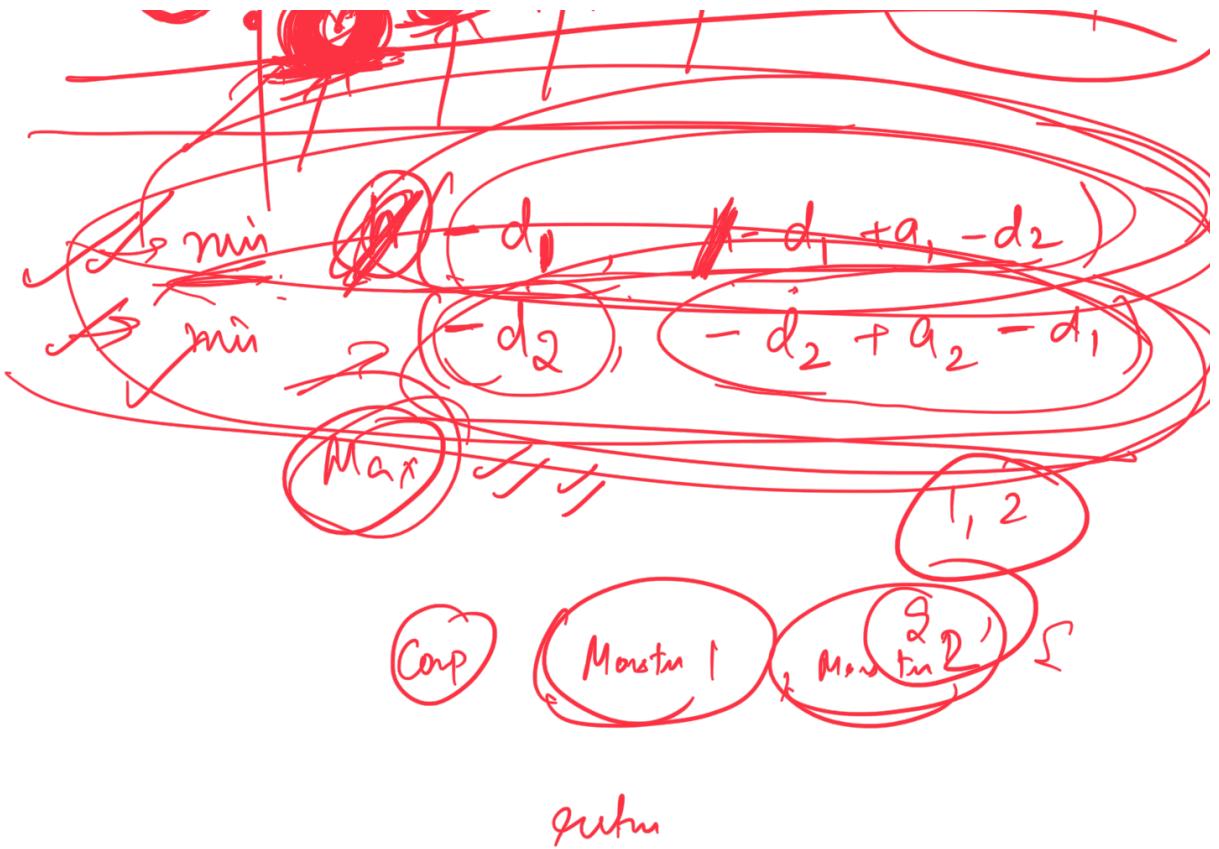
→ Exchange Arguments

→ How will you two element in order.



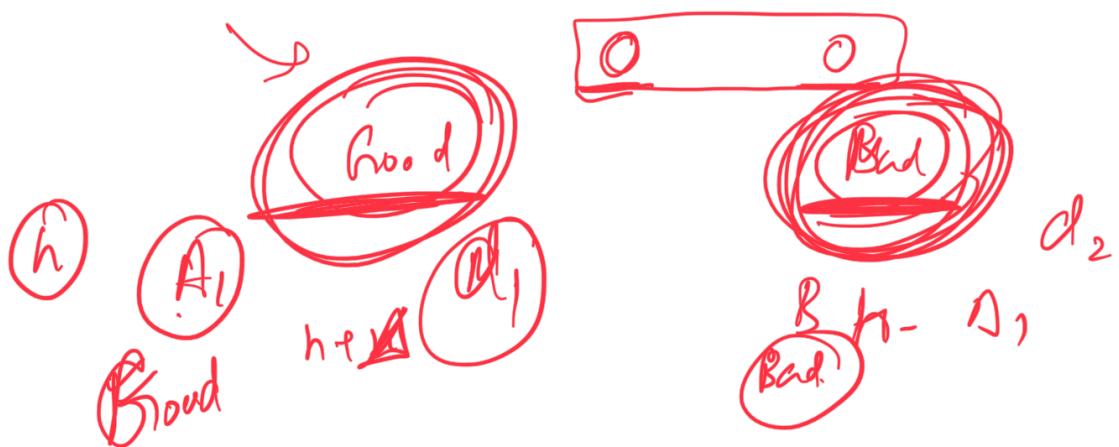






improving our health

" improving our health



$$\min(-d_1, +d_1 + \Delta - d_2)$$

$$\min(-d_2, -d_2 + \Delta - d_1)$$

mix

$$\min(-d_1, +d_2 + \Delta)$$

$$\min(-d_2, -d_1 - \Delta)$$

A, B

B, A

-d₂

-d₁

-d₂ + Δ

-d₂

-d₁

-d₁ + Δ

2d₂

min

-d₁

-d₂ + Δ

-d₂

(-d₁ + Δ)

