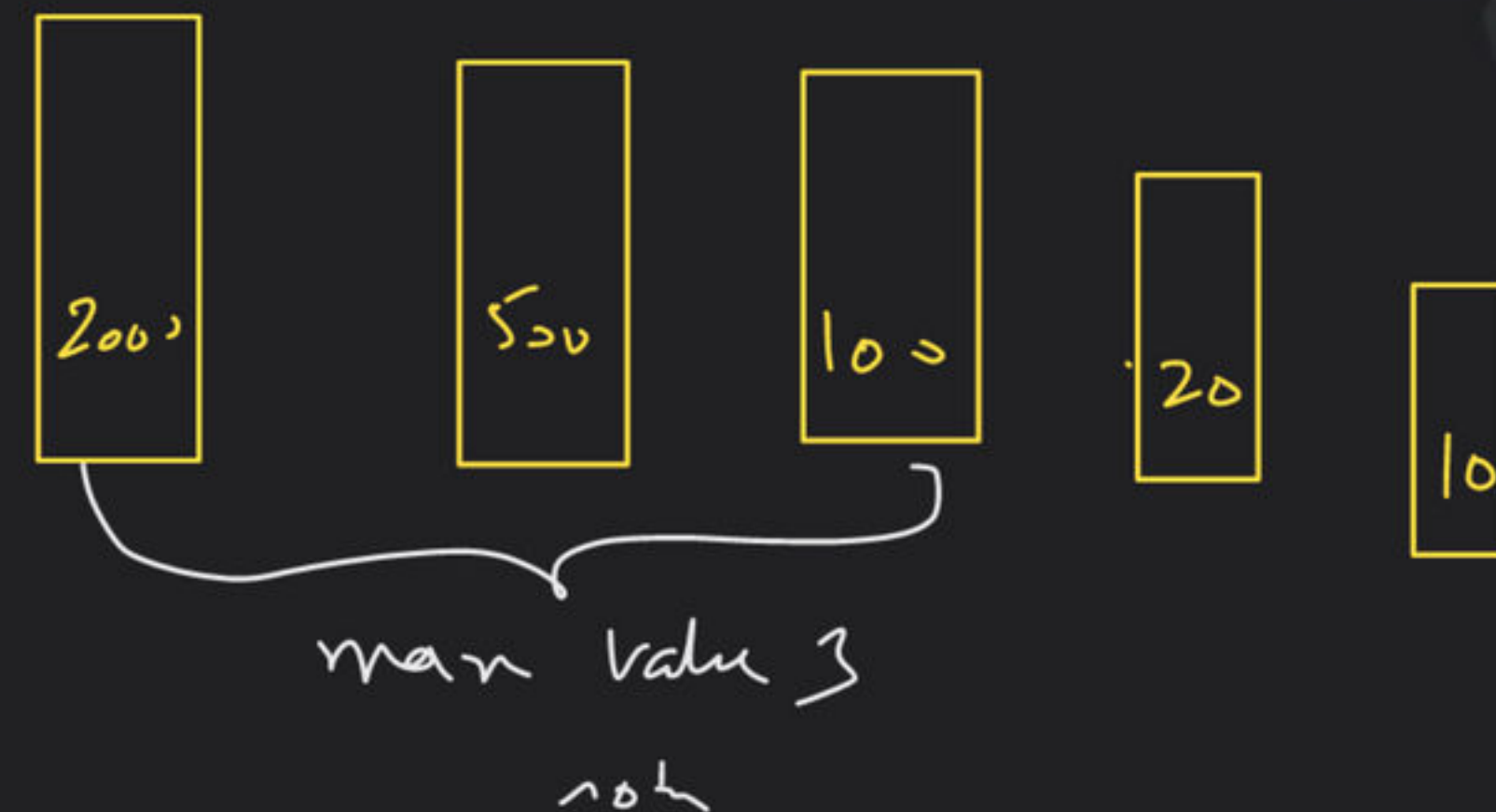


Bonus Class - Greedy

Special class

~~sort + min/max~~
~~1 PQ~~
~~1 set~~



3 note

max

→ Dijkstra

farzi
topic

PQ



distance min →

pick

①

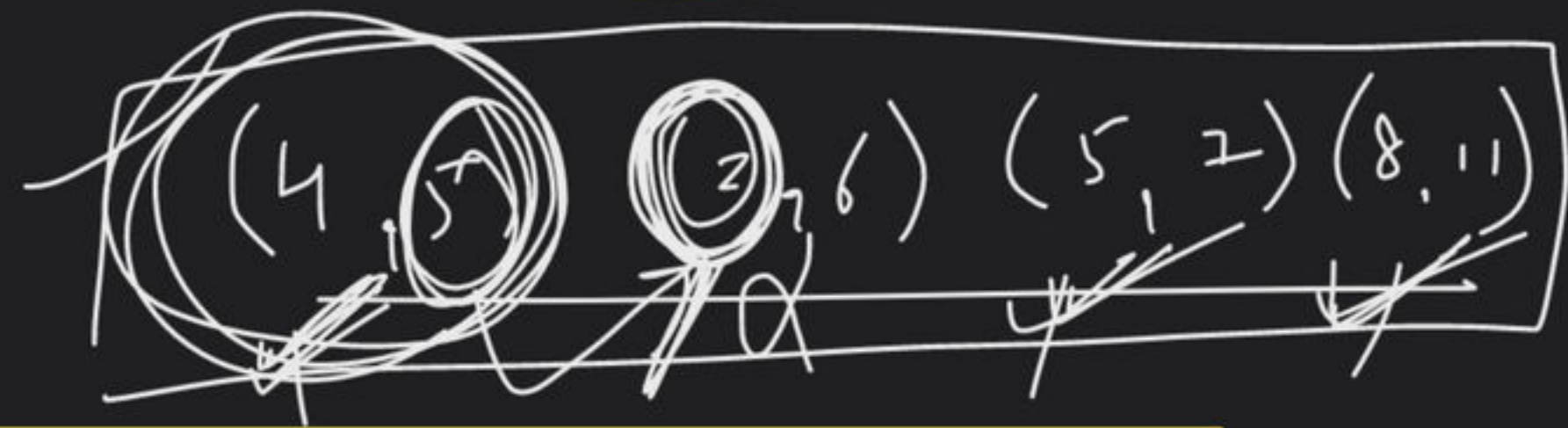
"N"

Trains

activity selection problem

N meet in one mark

1 Platform



platform

i/p → arrival time →

0 th	1 st	2 nd	3 rd
5	8	2	4

departure time →

7	11	6	5
---	----	---	---

1 day
max train = 3

Algo

→ sort (basis on
descending order)

→ analyse kon kon ni train

possible hai

next. arrival
time \geq prev. dept
time

→ include next

train

Lollipop

offer

1 LP

any 2 LP

man paine
to buy all
LP

{ 2, 9, 8, 4, 6, 7 }

free
solve → { 2, 4, 6, 7, 8, 9 }

(1 ps)

buy > rec

ruk, jas

~~min paine~~
~~Karke Karke~~
Buy all LP

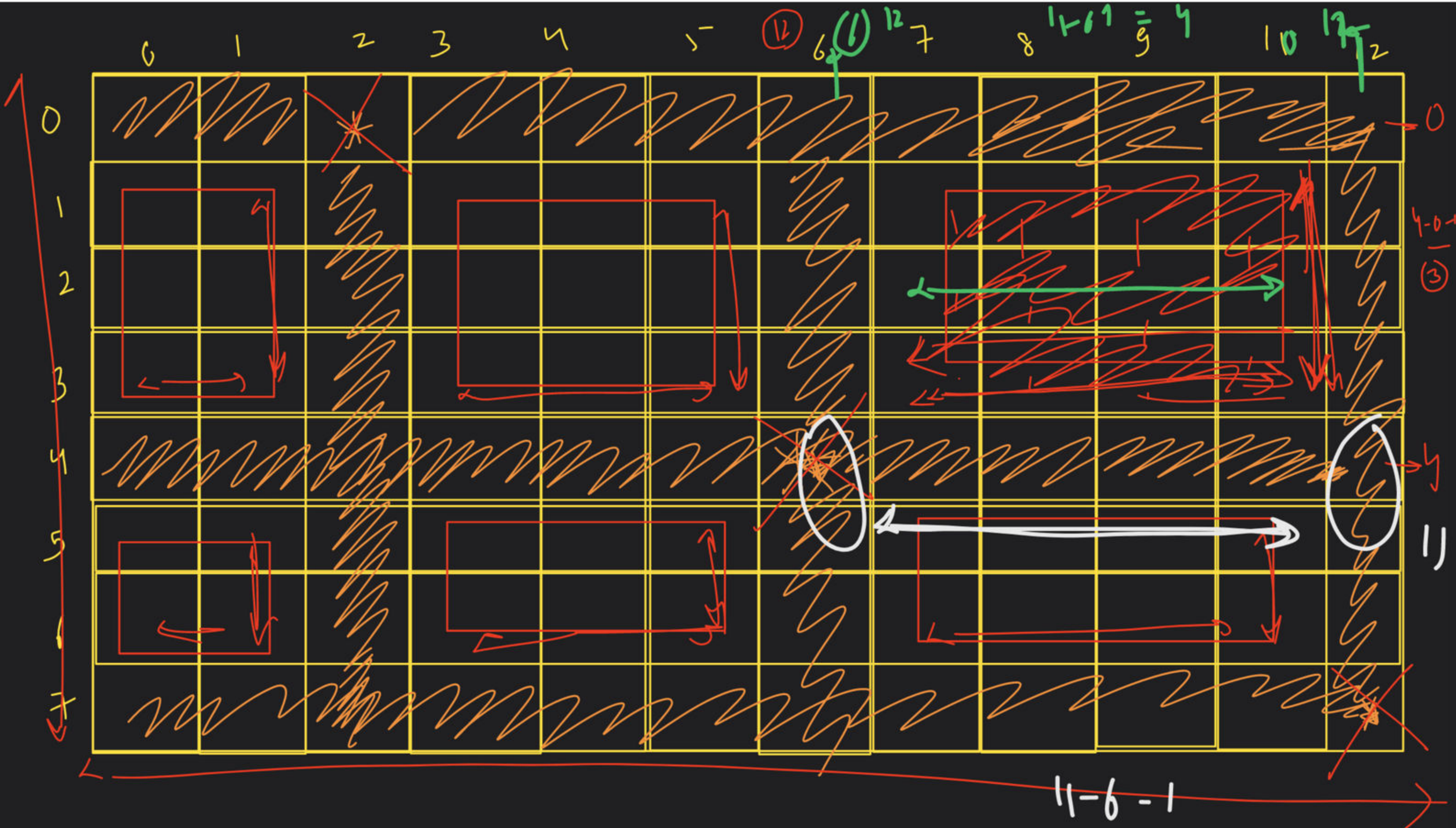
after sorting

buy	buy	free	buy	free	free
2	4	6	7	8	9
0	1	2	3	4	5

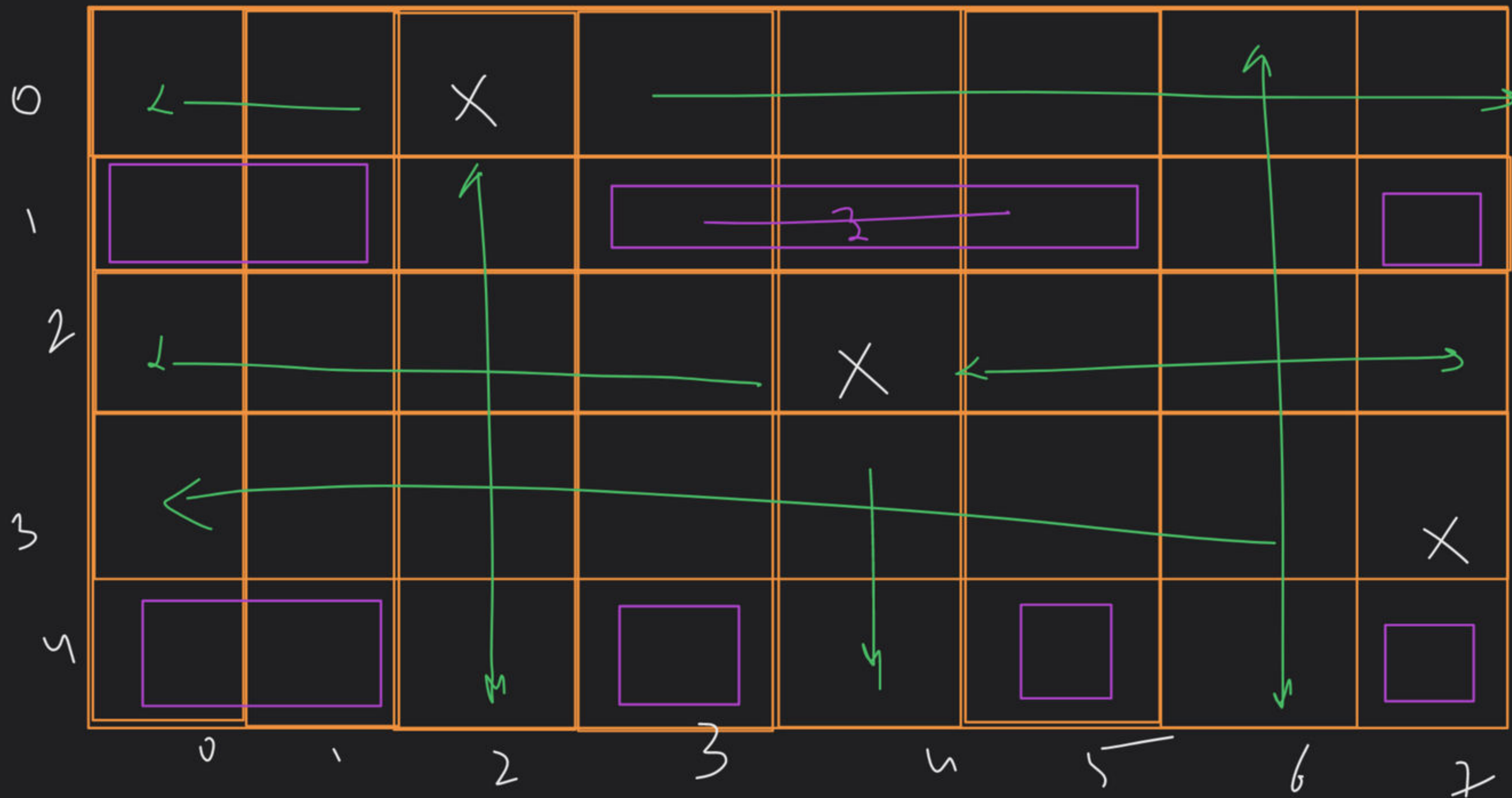
$$\text{amount} = 4 \times 2 + 4 = \textcircled{6} \text{ Rs}$$

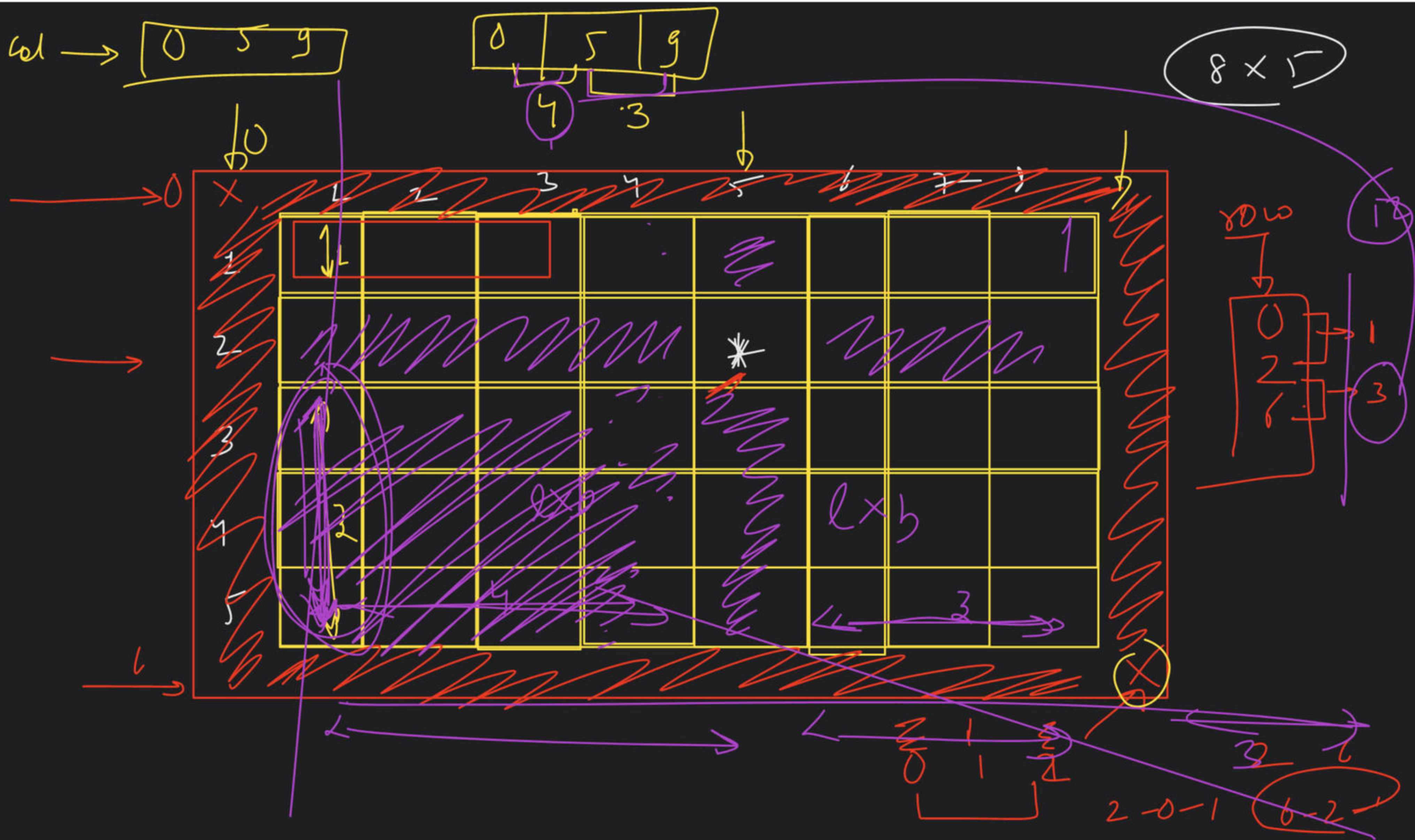
buy > free

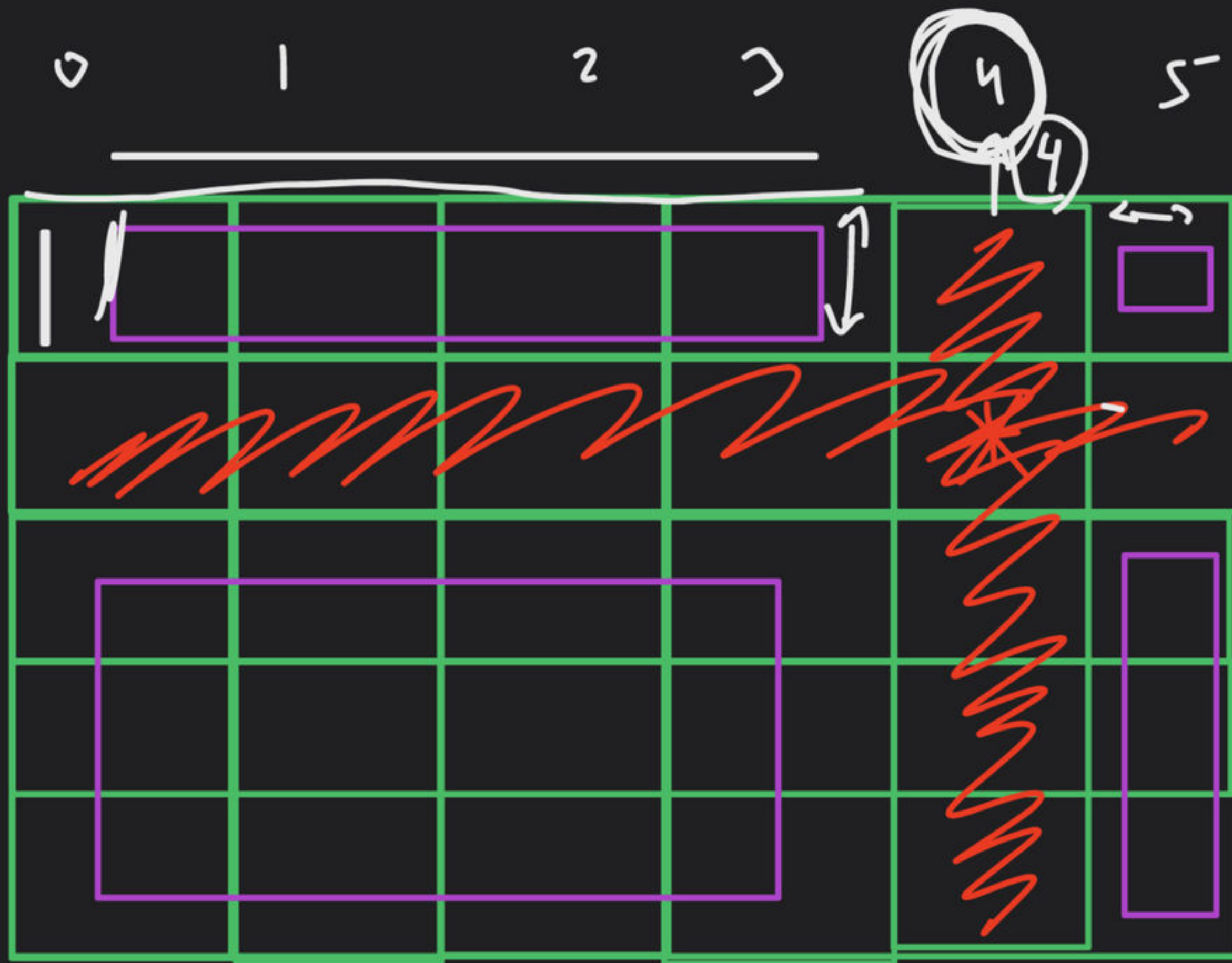
shop
candies



aw-3







(1)
(2)
(6)

(6-4-1)

(1)

2

3

4

6-4-1

5-1-1

Chocolate

Distribution

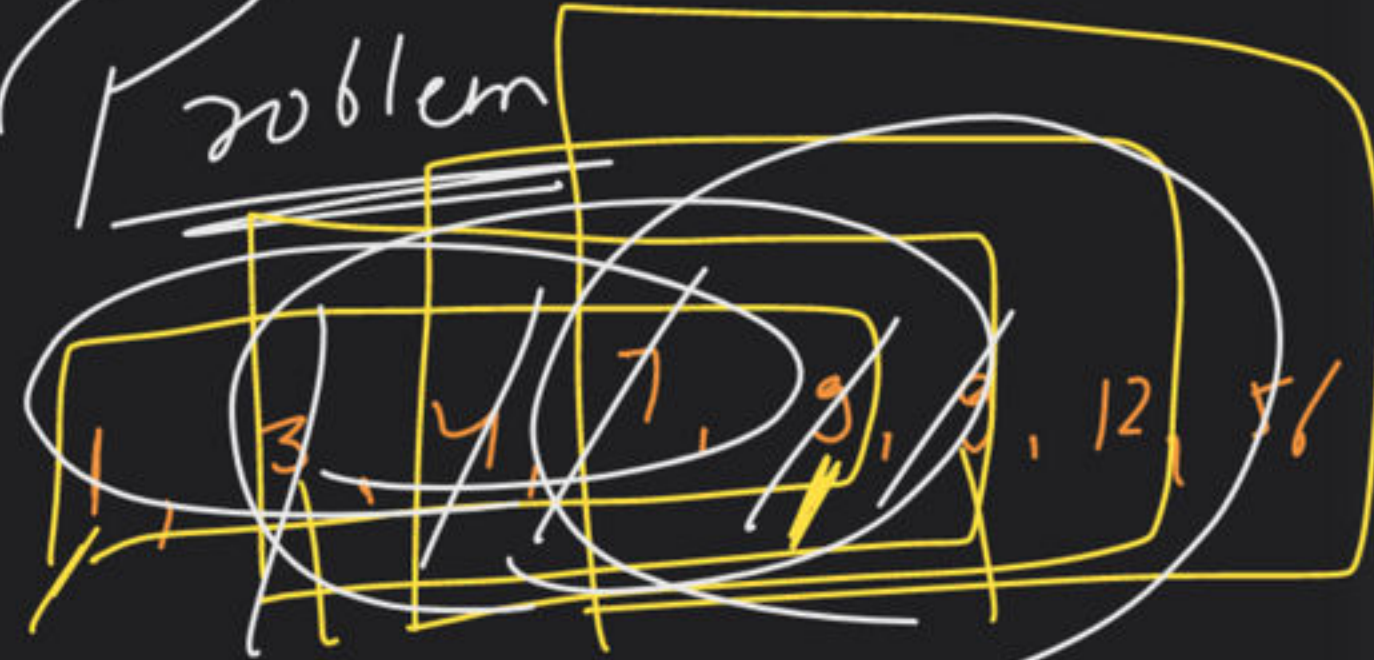
Problem

packets

N = 8

students

M = 2



①

arr = { 3, 4, 1, 9, 56, 7, 9, 12 }

sort

8, 6, 9, 9

number
of chocolate

Distribute chocolate among M students

st \rightarrow exactly 1 packet

difference b/w max no of chocolates
given to a student & min no of
chocolate given to a student is minimum

Step

sort arr

\neq
 $m - 1 \leq$ window

min difference

Calculate

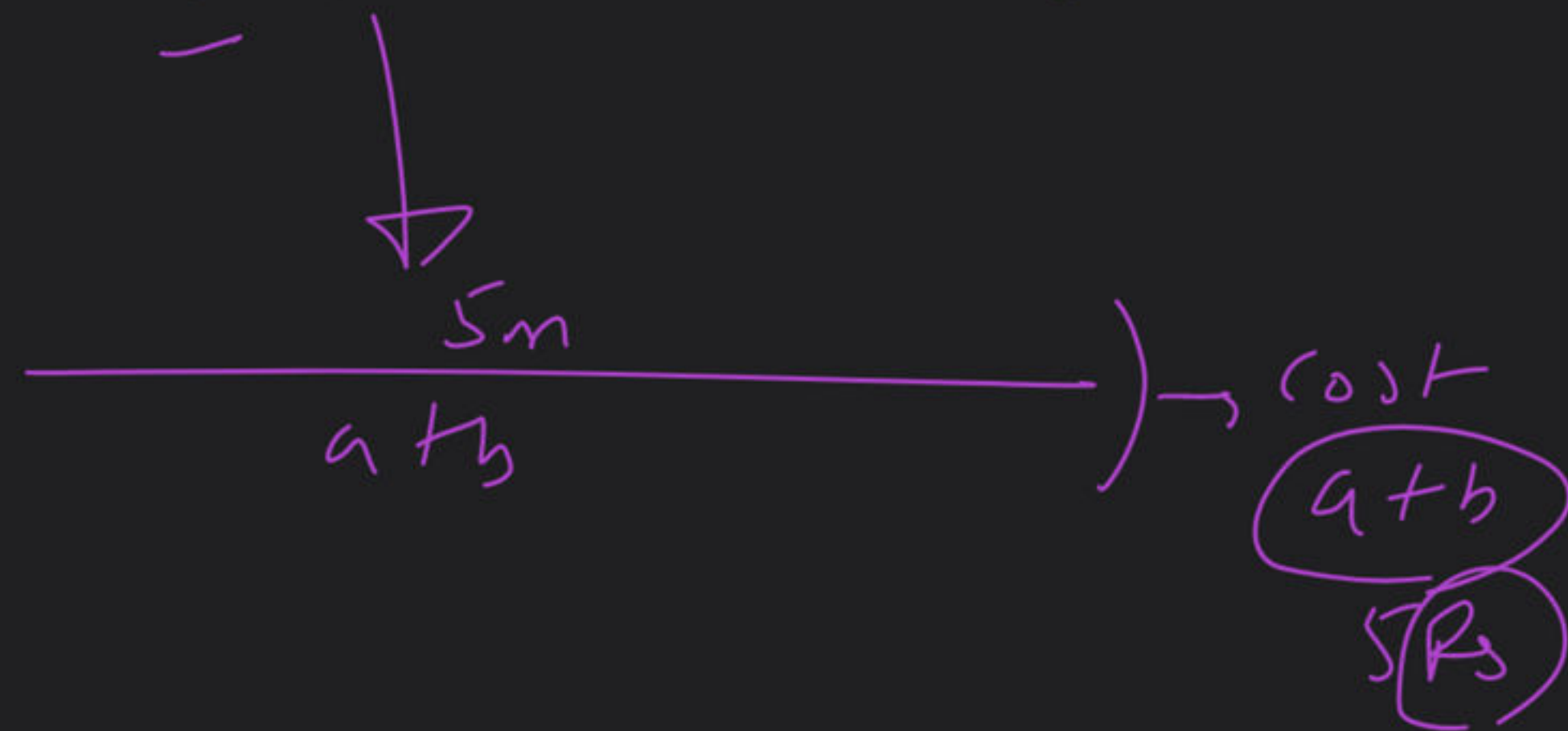
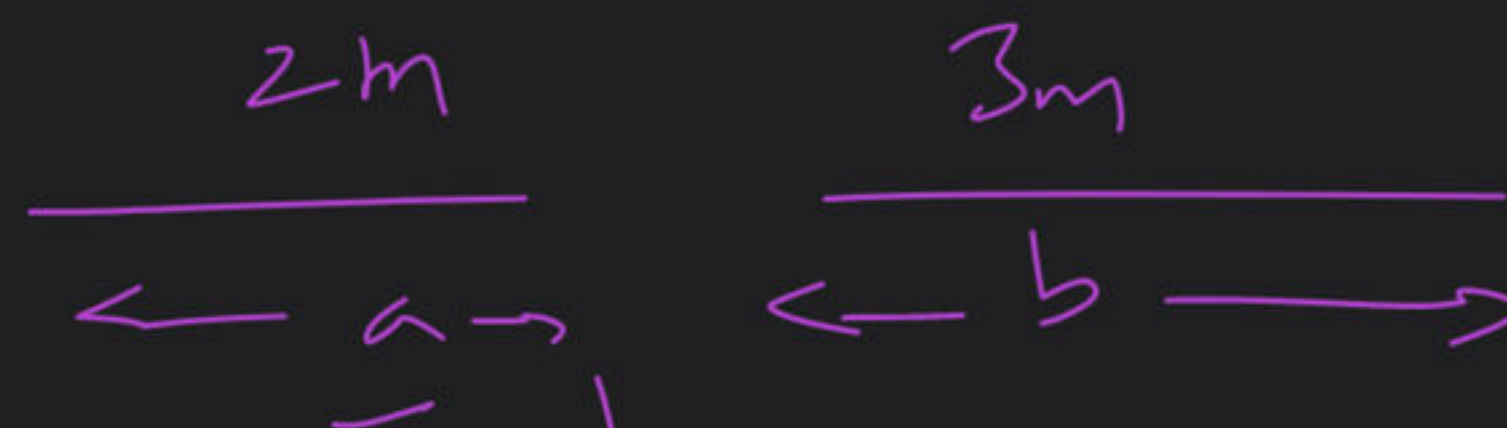
difference of
max & min

all
difference

→ Min Cost of ropes

single piece

multiple pieces of rope



Huffman Encoding

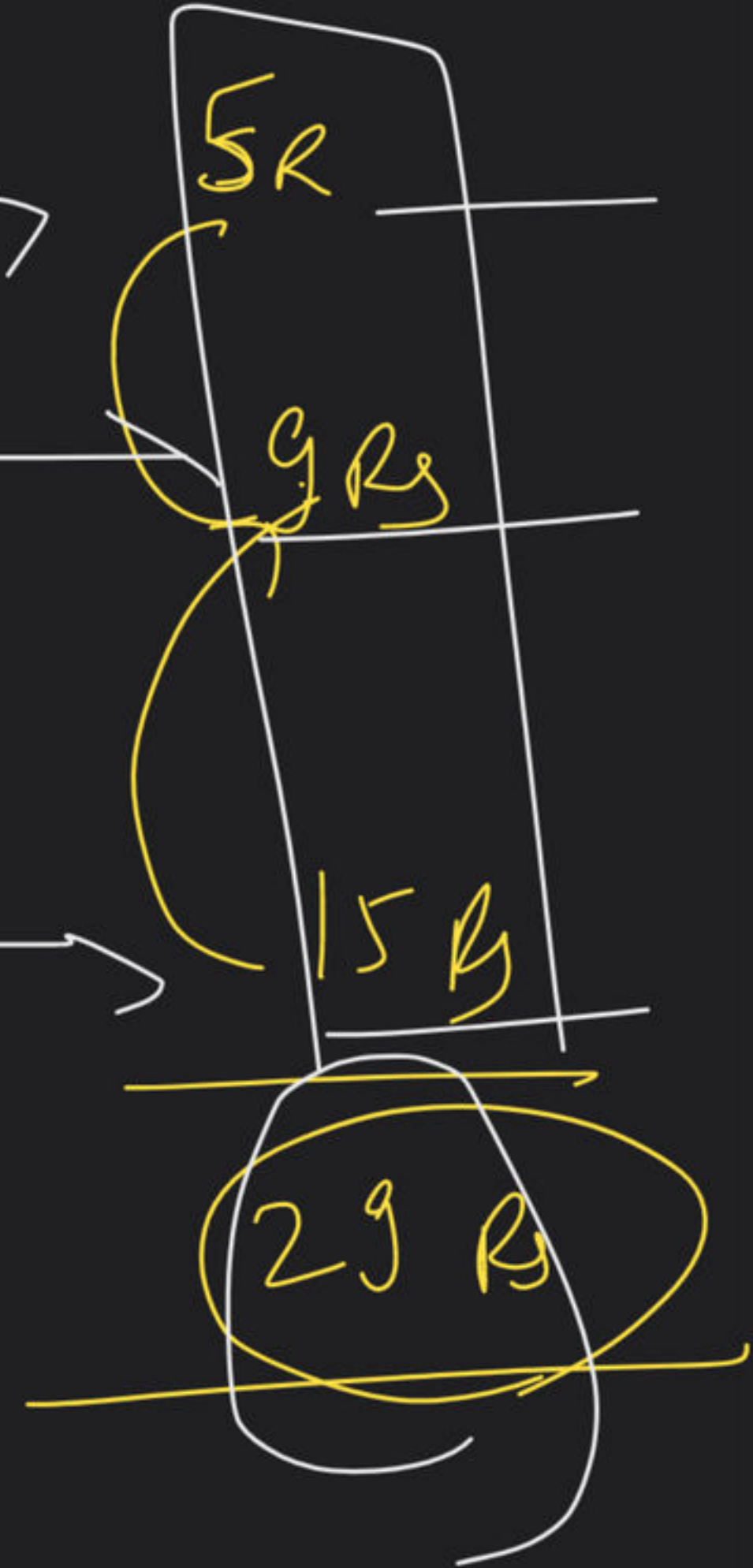
arr() = { 4, 3, 2, 6 }

min heap

{ 4, 5, 6 }

{ 9, 6 }

{ 15 }



fractional Knapsack:-

~~0/1~~

	item 1	item 2
Value →	60	120
Weight →	10	30

Capacity

50 kg

$\frac{val}{wt} \rightarrow 6, 5, 4$
 $60 + 100 + \frac{120}{30} \times 20$
 240

maxⁿ value

① $\frac{\text{Val}}{\text{wt}}$ \rightarrow sort (dec order)

② one by one item pick

entire item \rightarrow item wt \leq remaining capacity

fractional item

value addition \rightarrow

$\frac{\text{val}}{\text{wt}} + \text{rem capacity}$

5Kg Dael 120

7Kg ?

pieces

$$7\text{Kg} \sim 7 \times 24 = 168 \text{ Rs}$$

$$11\text{g} = \frac{120}{5} = 24 \text{ Rs}$$