

Greedy \rightarrow लालची

Selling cost \rightarrow

1	5	6	2	3
2	5	3	2	1

weight

Maximize / Minimize Something

Optimization Problem

Greedy Technique

DP

Maximize the selling cost

✓	x	x	x	x
✓	✓	x	x	x
✓	x	✓	x	x
.....				
.....				
.....				
.....				

Problem 1

$[1, 3] \rightarrow 2$

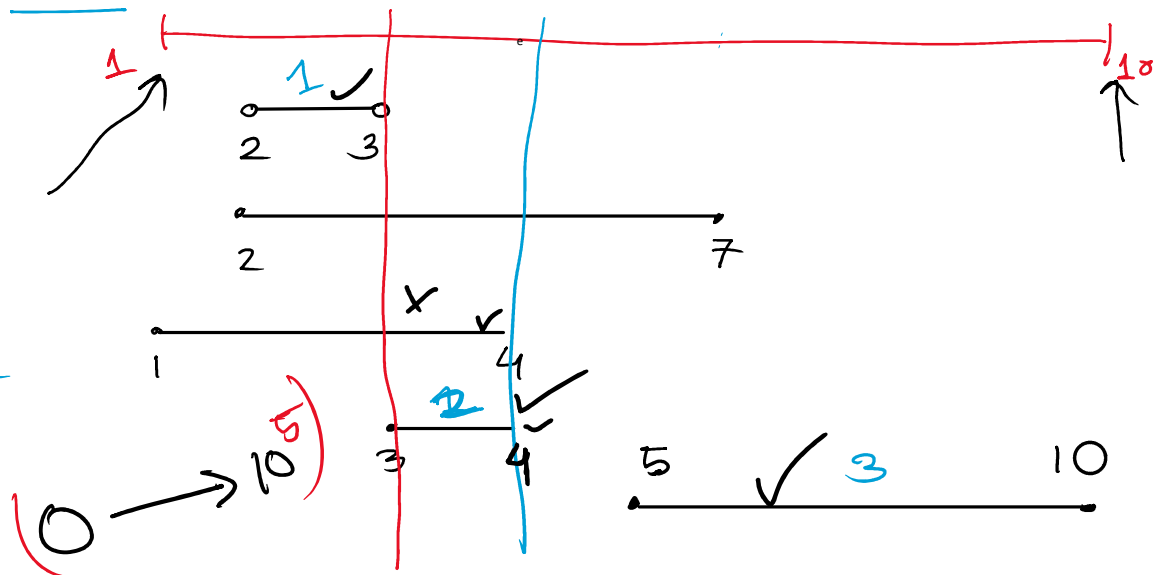
$[2, 7] \rightarrow 5$

$[1, 4] \rightarrow 3$

$[3, 4] \rightarrow 1$

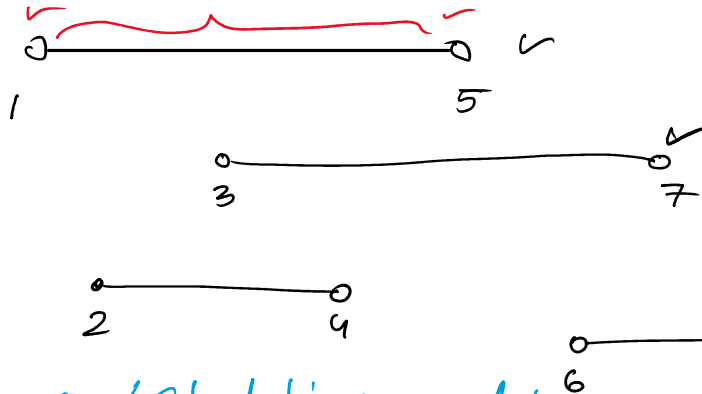
$[5, 10] \rightarrow 5$

Max amount of attend class ③



Problem 2

Problem 2



Minimum number of
teachers needed

Maximum overlap
class

$N < 10^5$

$0 \leq \text{start.time}, \text{end.time} \leq 10^9$

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

Problem 3

range = 4, $10^5 \leq N$, $R \leq N$, $a[i] \leq 10^5$

Value \rightarrow	6	5	7	12	10	8	15	9	8
index \rightarrow	0	1	2	3	4	5	6	7	8

$O(N)$

$O(N \log N)$

Set <int> s;

12 12 12 15 s.erase(7);

8
10
12
15

insert $\rightarrow O(\log N)$
delete \rightarrow

problem 4

Ans: ~~0~~ ~~2~~ ~~3~~ 6

0	1	2	3	4	5	6	7	8	9	10	11
1	3	2	2	3	3	1	1	3	1	2	3

$O(N)$

$O(N)$

Consecutively

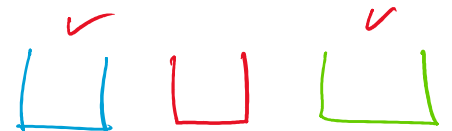
Two Pointer Technique

1	1	1	1
2	3	2	2

id 1 \rightarrow Blue

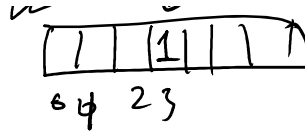
id 2 \rightarrow Red

id 3 \rightarrow Green



Consecutively

Two Pointer Technique/
Sliding Window



2

1 \rightarrow N: start

start \rightarrow N:

for($i=0 \rightarrow N$) {
 for($j=i \rightarrow N$) {

}

}

Greedy

Two Pointer / S.W \rightarrow \square

Binary Search \rightarrow

⋮

DP

0/1 Knapsack \rightarrow Algo

Coinchange \rightarrow Algo/

⋮