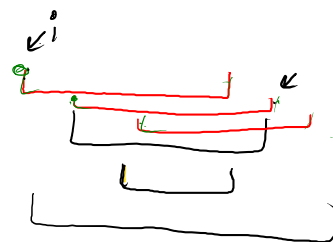


merge intervals



	1	2	8	15	16	22	18	
	9	6	10	18	20	24	19	
→ s _{cor}	1	2	8	15	16	18	22	23
→ e _{cor}	6	9	10	18	19	20	24	26

$\{1, 10\} \{15, 20\} \{22, 24\}$

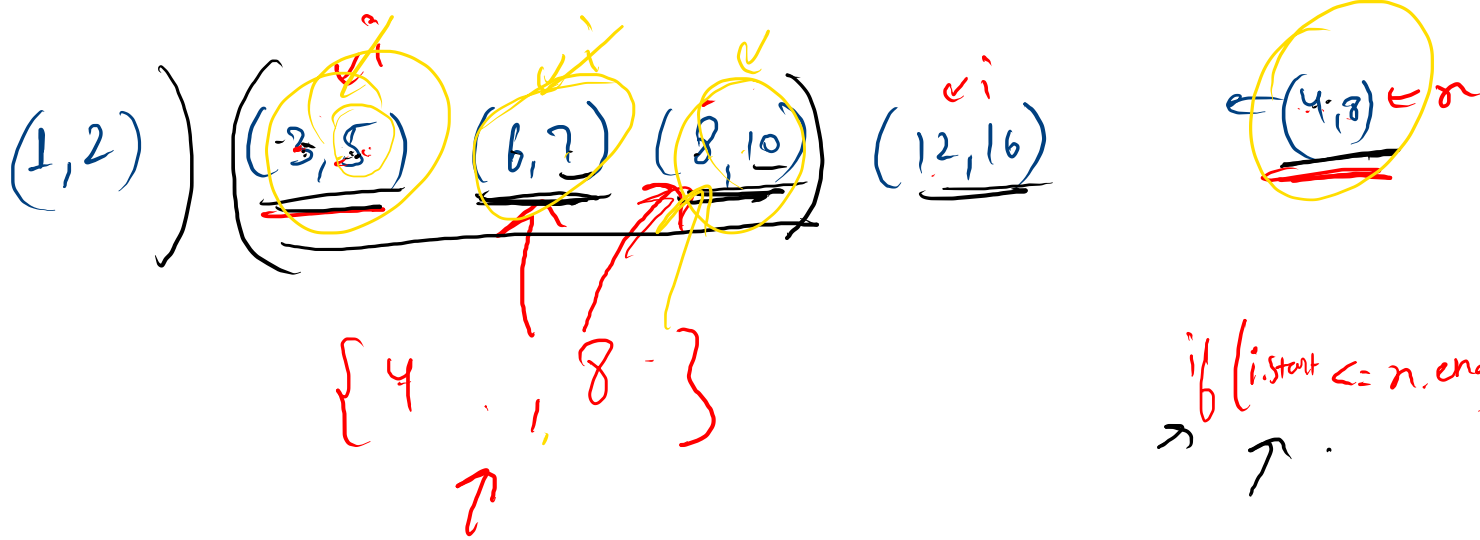
interval list intersection

A: (0,2) (5,10) (13,23) (24,25)

B: (1,5) (8,12) (15,24) (25,26)

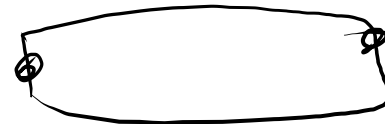
9 (1,2) (5,5) (8,10) (15,23) (24,24) (25,26)

insert interval



Resulting merged intervals: $(1, 2)$, $(3, 10)$, and $(12, 16)$.

}



Gas station

	0	1	2	3	4	5	6	7	8	9
gas:	10	6	1	3	12	3	9	7	4	
cost:	9	4	2	6	5	8	10	3	7	

① $\sum gas \geq \sum cost$

$\Delta_1: 1 \quad 2 \quad -1 \quad -3 \quad 7 \quad -5 \quad -1 \quad 4 \quad 3$

$\Delta_{avg}: 1 \quad 3 \quad 2 \quad -1 \quad 6 \quad 1 \quad 0 \quad 4 \quad 1$

① -1

$Csum = 1 + 2 = 3 - 1 = 2 - 3 = -1 + 7 = 6 - 5 = 1 - 1 = 0 + 4 = 4 - 3 = 1$

minval: ~~1~~ -1

minid: ~~0~~ 3

④ 4

Sum of Subsequence width

→ { 2 1 3 9 6 }

→ { $\binom{2^i}{1}$ 2 $\binom{2^{n-1-i}}{2}$ 6 9 }

$\Sigma \text{max-min}$

$\begin{matrix} \swarrow & \searrow \\ x & y \\ \swarrow & \searrow \\ 2 & 2 \end{matrix}$

 $\text{ans} = \text{ans} + (2+x+2+y)$



`Arrays.sort()` → $O(n^2)$

→ `Collection.sort()` → $O(n \log n)$