Class 17

Friday, August 18, 2023 11:04 PM

Segment Tree

$-10^9 \le v \le 10^9$

$1 \le N, Q \le 10^6$

$Q \subseteq \{$ POINT UPDATE, RANGE SUM $\}$

$\frac{N}{2}$ 7 1 -3 7 -5 5 4 2

$b=1 \rightarrow 5$

$b=2 \rightarrow 3$

$b=3 \rightarrow 1$

$b=4 \rightarrow 2$

$b=5 \rightarrow 3$

$b=6 \rightarrow 4$

$b=7 \rightarrow 4.5$

$b=8 \rightarrow 5$

$N = 100$

$\sqrt{N} = 10$

$y = \frac{N}{k}$ ↑ k

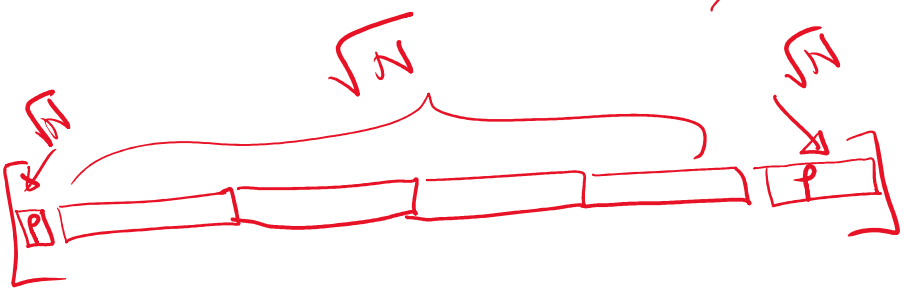
$\frac{N}{k} = k$

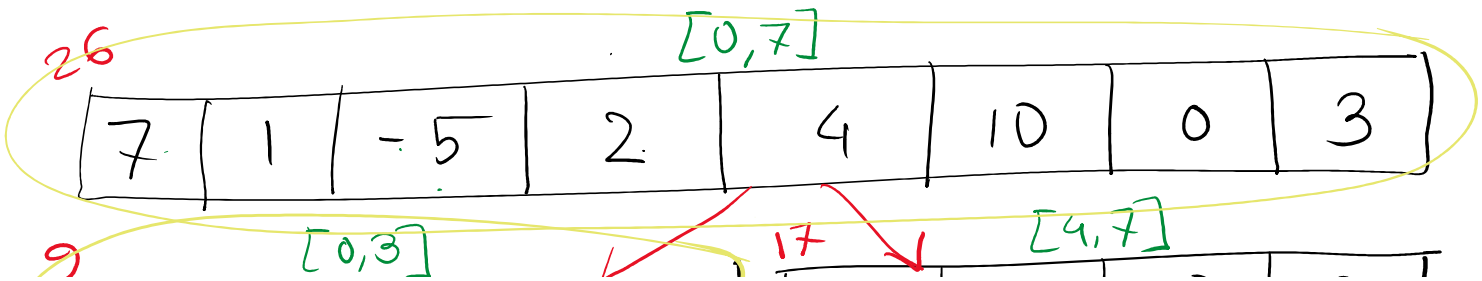
$\Rightarrow k^2 = N \quad \therefore k = \sqrt{N}$

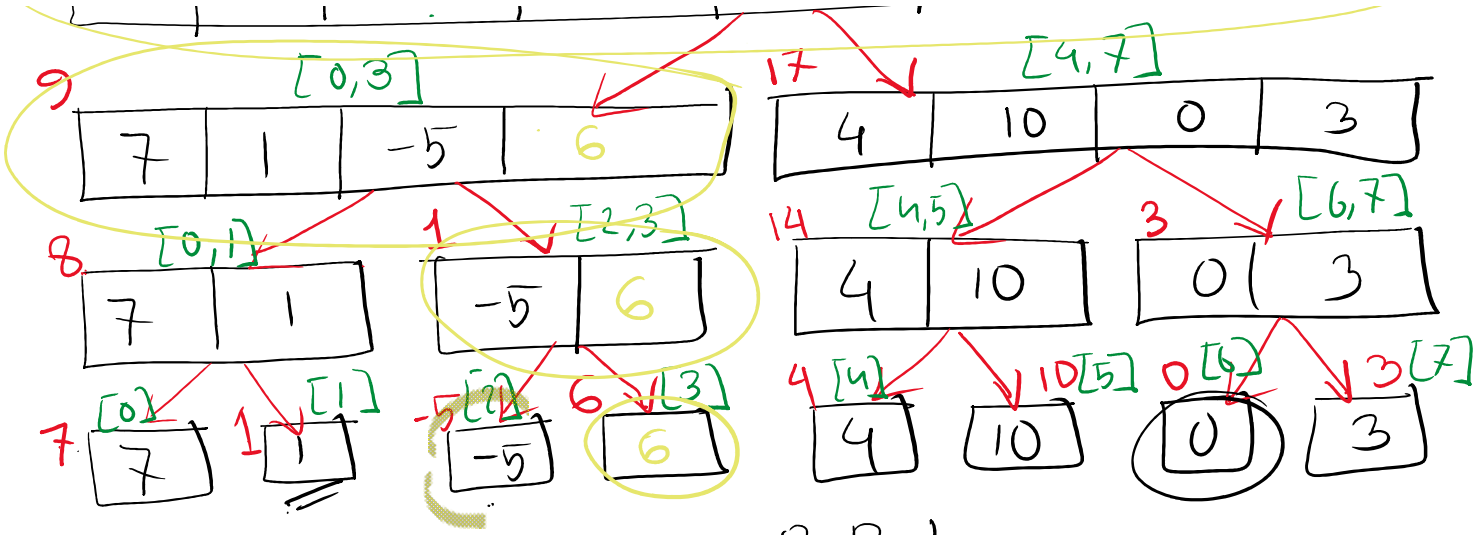
$N\sqrt{N}$

$10^5 \times 300$

$\sim 3 \times 10^7$



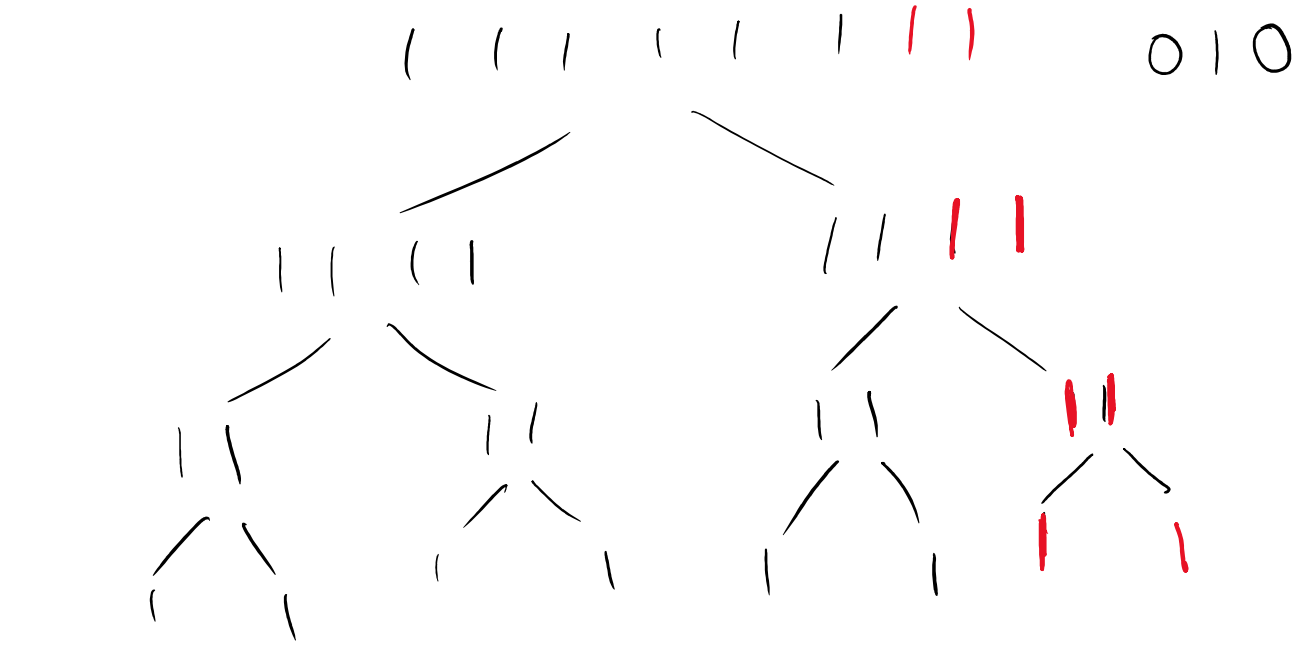




110

RRL

$N \log_2 N \rightarrow 10^6 \times 20 \simeq 2 \times 10^7$



[17,32]

17 → 63

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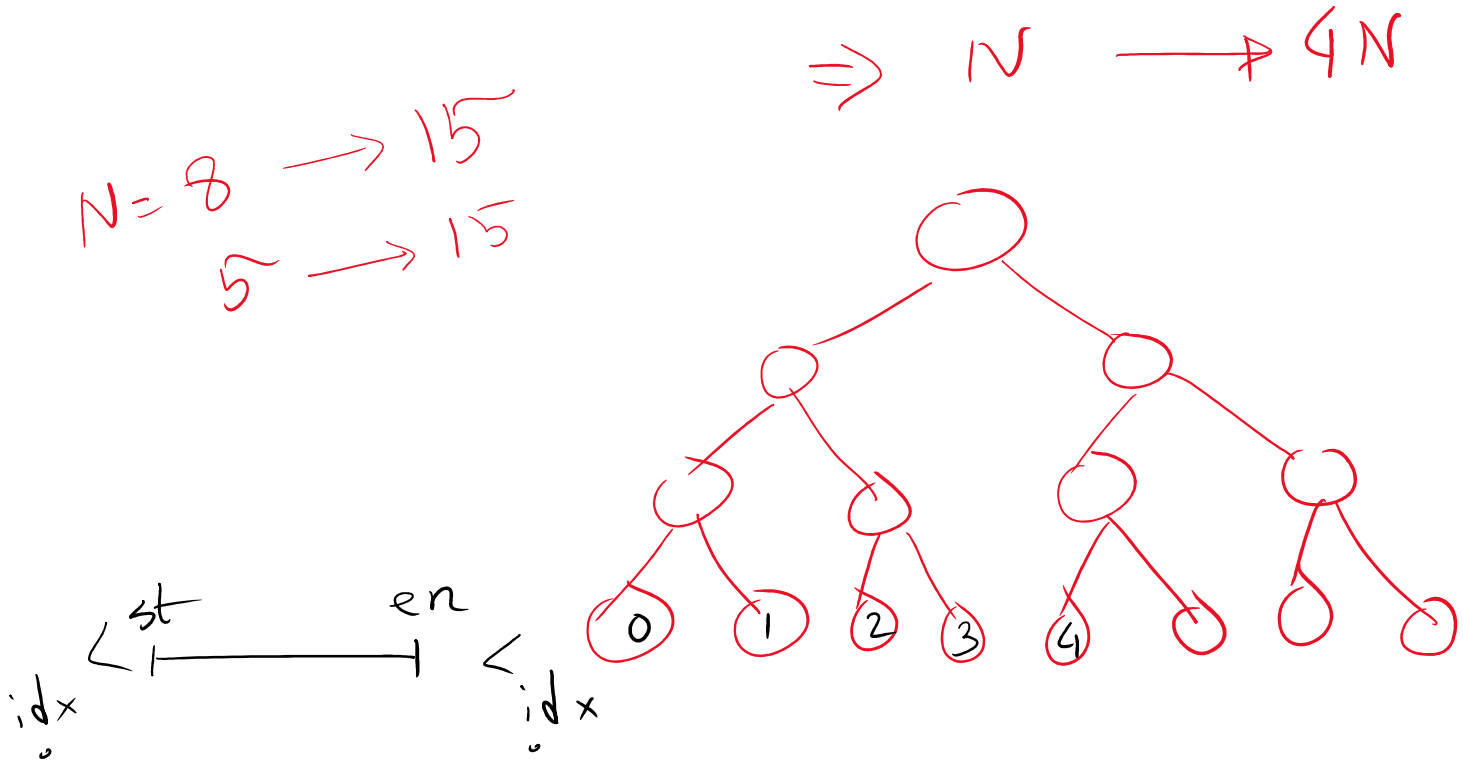
$\frac{N}{2} \rightarrow 2N$

$\Rightarrow N \rightarrow 4N$


N = 8 → 15
5 → 15
⇒ N → 4N
st
en
idx
idx
0
1
2
3
4