

$$a \rightarrow \begin{matrix} +4 \\ 5 \\ -5 \\ 5 \\ 1 \\ -4 \end{matrix}$$

$$s_1 \rightarrow 1 \ 2 \rightarrow 5 + (-1) = 4$$

$$s_2 \rightarrow 2 \ 1 \ 4 \ 5 \rightarrow -5 + 5 + 1 - 4 = -3$$

$$s_3 \rightarrow 2 \ 5$$

$$\begin{matrix} ? & 2 & \checkmark \\ + & 3 & 4 \checkmark \\ ? & 1 & \checkmark \\ + & 2 & 1 \checkmark \\ ? & 2 & \checkmark \\ ? & 1 & \end{matrix}$$

$$\begin{aligned} hsum[1] &= -3 + (4 \times 2) \\ &= -3 + 8 \\ &= 5 \end{aligned}$$

$$fo_add[1] = 1$$

$$LIM = 3$$

$$s_1 \rightarrow 1 \ 2 \longrightarrow L$$

$$(s_2) \rightarrow 2 \ 1 \ 4 \ 5 \longrightarrow H$$

$$s_3 \rightarrow 2 \ 5 \longrightarrow L$$

$$\begin{aligned} & query_set = 1 \\ & \swarrow \downarrow \searrow \dots \swarrow \\ & h_1 \quad h_2 \quad h_3 \quad \dots \quad h_n \end{aligned}$$

$$5 + (1 \times 4) = 9$$

$$4 + (1 \times 2) = 6$$

$$UM = 320$$

$$\sqrt{10^5} \times m \leq 10^5$$

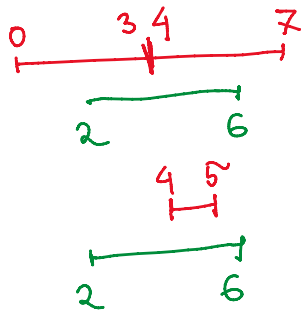
$$\Rightarrow m \leq \sqrt{10^5}$$

$$\Rightarrow m \lesssim 320$$

$$10$$

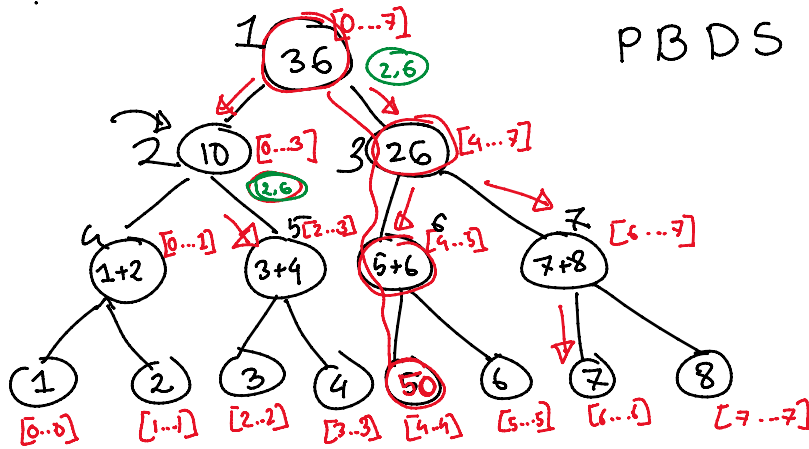
$$3 \times 10^5$$

Segment Tree



$$\begin{matrix} 2 & + & 7 & + & 11 & + & 7 & = & 27 \\ \hline 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \end{matrix}$$

PBDS



1
2
4
8

$$gcd(g_1, g_2)$$

$$\begin{aligned} & l_1 = 20 \quad g_2 \\ & \begin{matrix} 2 & 5 & 10 & 4 \\ \hline 10 & 20 \end{matrix} \quad \begin{matrix} 8 & 2 & 3 & 7 \end{matrix} \end{aligned}$$

$$gcd(a, b, c)$$

$$\frac{2}{10} \quad 5$$

$$\frac{10}{20} \quad 7$$

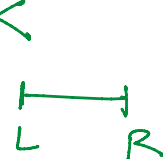
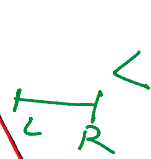
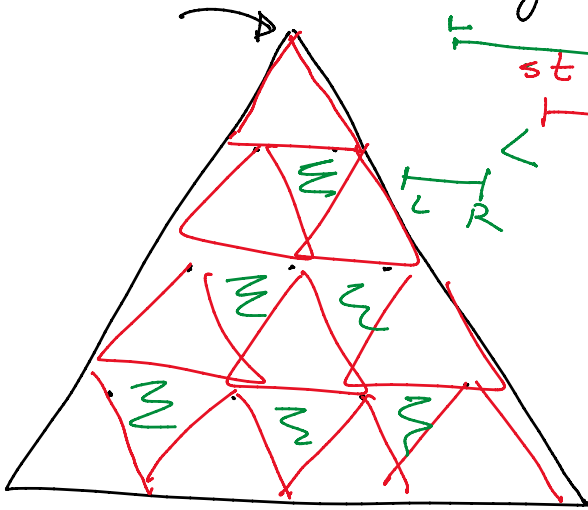
$$0$$

$$1$$

$$2$$

$$3$$

$$\gcd(\gcd(a,b),c) = \gcd(a,b,c)$$



$\log N$

N
 N
 N
 N

$\rightarrow N \log N$

