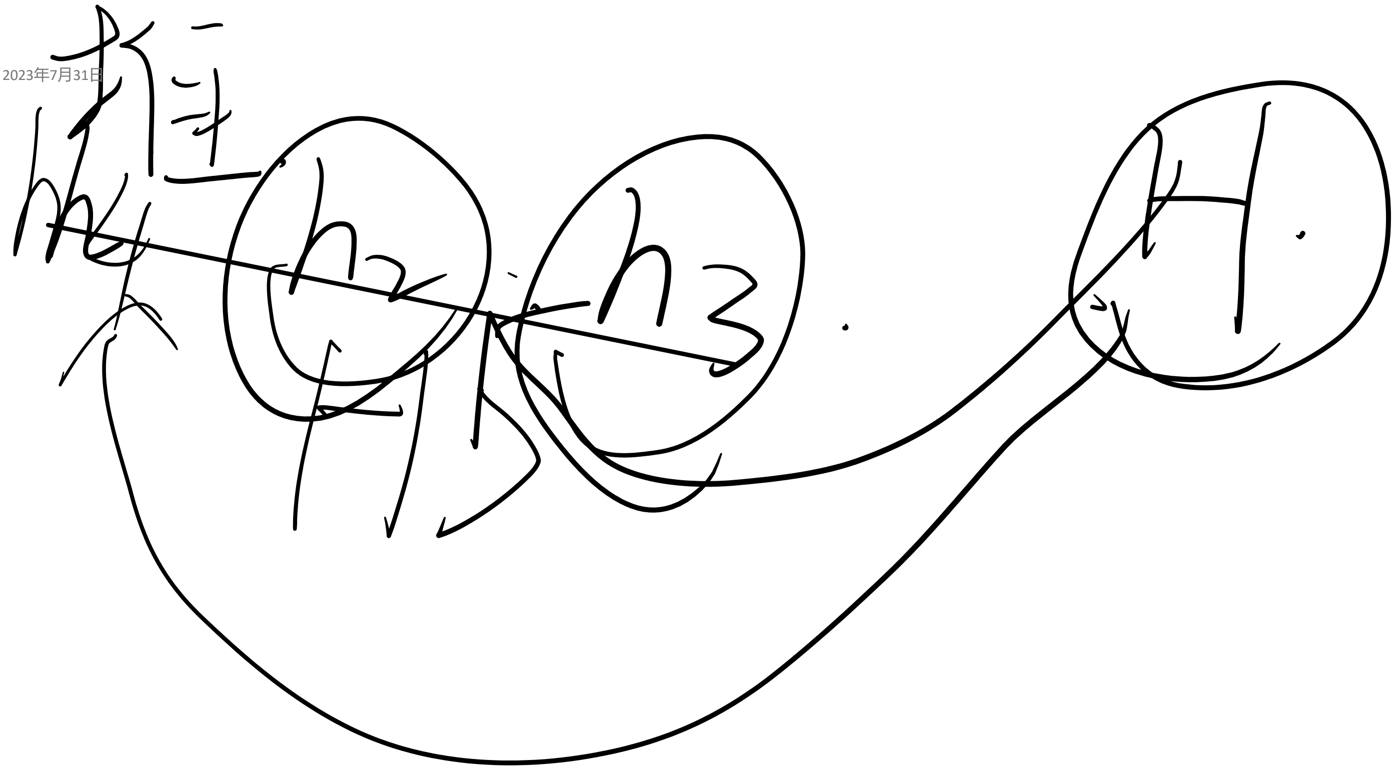
2023年7月31日



i, j

s

(1) i在j前 $\frac{s}{b_i}$, $\frac{s\times a_i}{b_j}$

(2) j在i前 $\frac{s}{b_j}$, $\frac{s\times a_j}{b_i}$

$\max\{\frac{s}{b_i}, \frac{s\times a_i}{b_j}\} <$

$\max\{\frac{s}{b_j}, \frac{s\times a_j}{b_i}\}$

$$\max\left\{\frac{1}{b_j}, \frac{a_i}{b_i}\right\}$$

$$\max\left\{\frac{1}{b_i}, \frac{a_i}{b_j}\right\} <$$

$$\max\left\{\frac{1}{b_j}, \frac{a_j}{b_i}\right\}$$

$$\max\{b_j, a_i \times b_i\}$$

$$< \max\{b_i, a_j \times b_j\}$$

$$a_i \times b_i < a_j \times b_j$$

让在 j 前.

$$\sum_{k=1}^{i} a_k = S$$ ①

$C_i = \max\{C_L, S + a_i\} + b_i$.

$C_j = \max\{C_L + b_i, S + a_i + b_i, S + a_i + a_j\} + b_j$

调换后

$C_i = \max\{C_L + b_j, S + a_j + b_j, S + a_i + a_j\} + b_i$.

$C_{ij} < C_{ji}$

$\max\{C_L + b_i + b_j, S + a_i + b_i + b_j, S + a_i + a_j + b_j\} <$

$\max\{C_L + b_i + b_j, S + a_j + b_i + b_j, S + a_i + a_j + b_i\}$

$b_i < a_j$

$max(a_i, b_j) < max(a_i, a_j)$

$max\{a_j + b_i + b_j, a_i + a_j + b_j\}$

$< max\{a_j + b_i + b_j, a_i + a_j + b_j\}$

$a_i + b_j + max\{b_i, a_j\}$

$a_j + b_i$

$< n + max\{b_j, a_i\}$

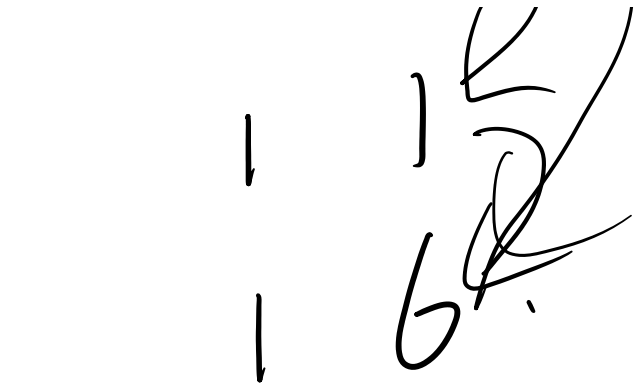
$a_i + b_j - max\{b_j, a_i\}$

$= min\{a_i, b_j\}$

$min\{a_i, b_j\} \leq min\{a_j, b_i\}$

7 3

1 2



$a_i < b_i$.

$\min\{a_i, b_j\} < \min\{a_j, b_j\}$

$a_i < a_j$ 或 $a_i > b_i > b_j$

$a_i == b_i$.

$a_i < a_j$.

$a_i > b_i$.

$b_i > b_j$.

$a_i < b_i$ $a_j > b_j$.

$\min\{a_i, b_j\} \leq \min\{a_j, b_i\}$.

$a_i < b_i$ $a_j == b_j$.

(<) == (>)