

“重链”

$u \text{ --- } hson[u] \text{ --- } hson[hson[u]] \text{ --- } \dots$

“重链顶” top

$top[1] = top[2] = top[6] = top[13] = 1$

$top[5] = top[11] = 5$

$top[hson[u]] = top[u]$

对于轻儿子 v , $top[v] = v$

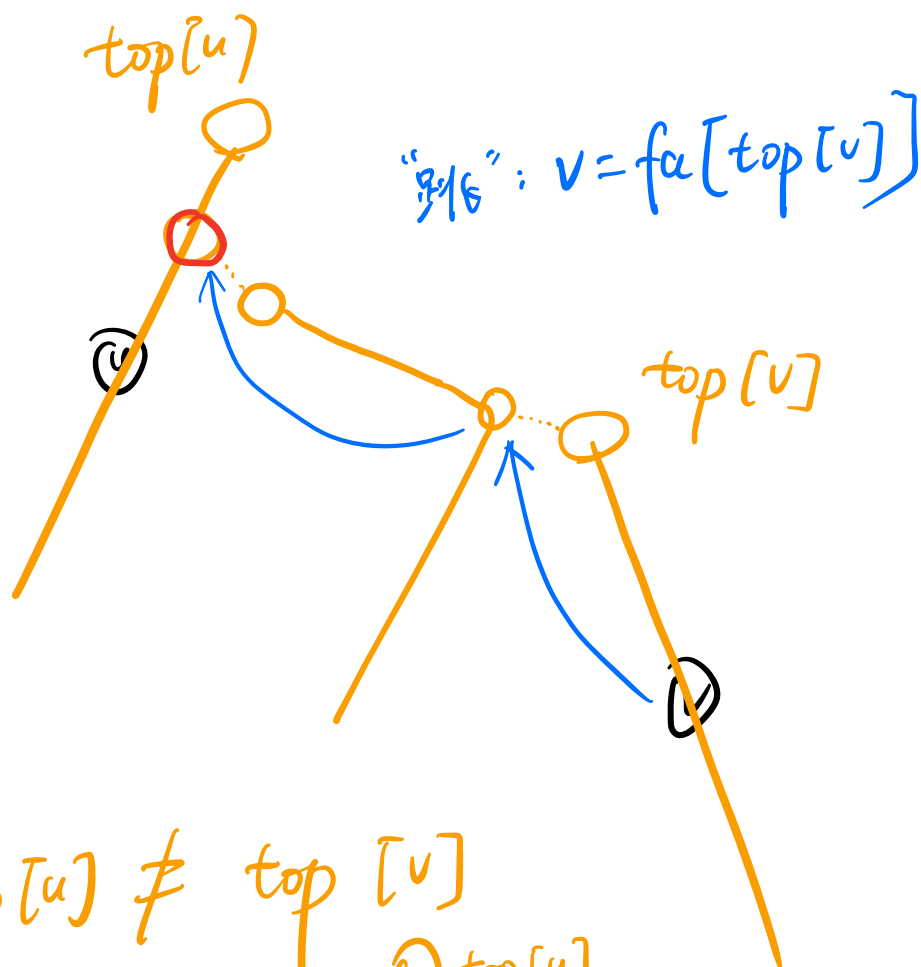
1. $hson$ 2. top

dfs 序, 线段树

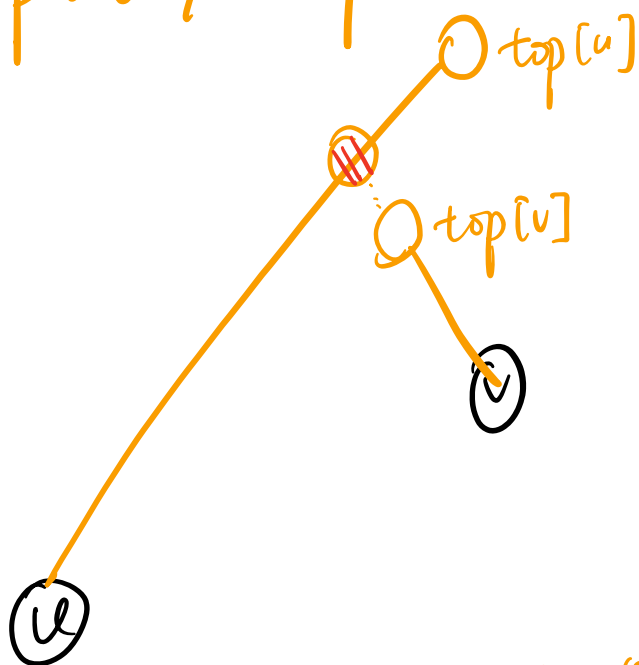
dfs1: 求 sz 和 $hson$

dfs2: 求 top .

树上任一条路径至多经过 $O(\log n)$ 条重链



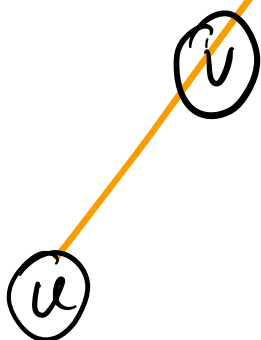
若 $top[u] \neq top[v]$



$top[u]$ 和 $top[v]$, 谁深谁跳.

若 $\text{top}[u] = \text{top}[v]$

$\text{top}[u] = \text{top}[v]$



谁浅，谁是祖先。