

12-F1

优先级队列

左式堆：沿藤合并

God's right hand is gentle
But terrible is his left hand

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堆合并

❖ $H = \text{merge}(A, B)$: 将堆A和B合二为一

//不妨设 $|A| = n \geq m = |B|$

❖ 方法一: $A.\text{insert}(B.\text{delMax}())$

$O(m * (\log m + \log(n + m)))$

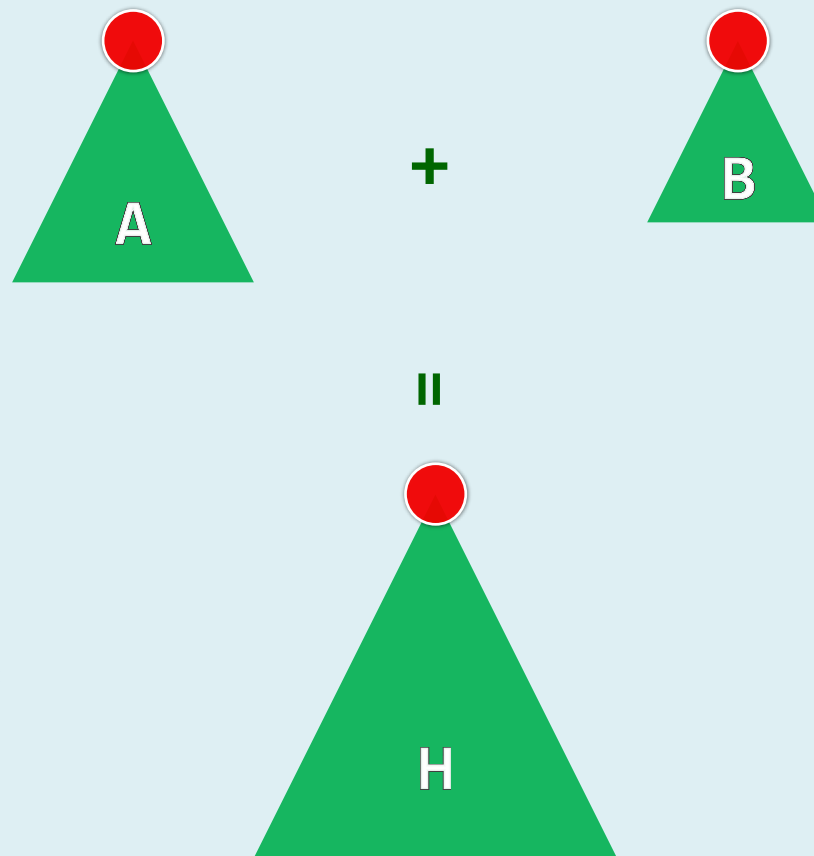
$= O(m * \log(n + m))$

❖ 方法二: $\text{union}(A, B).\text{heapify}(n + m)$

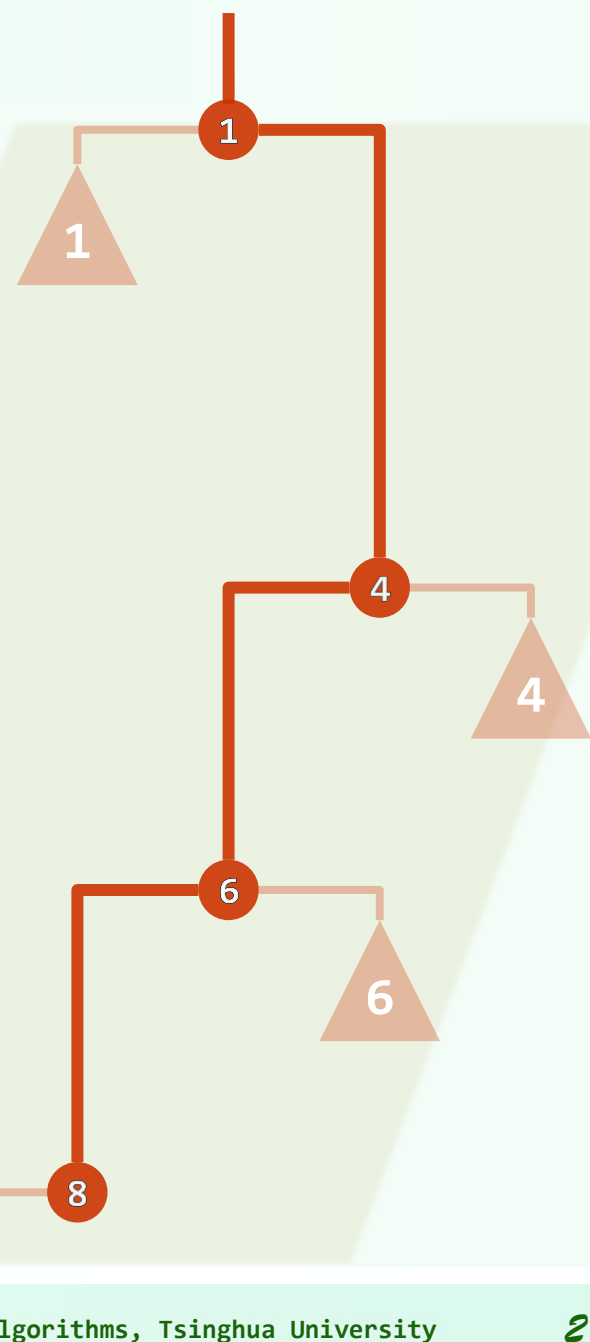
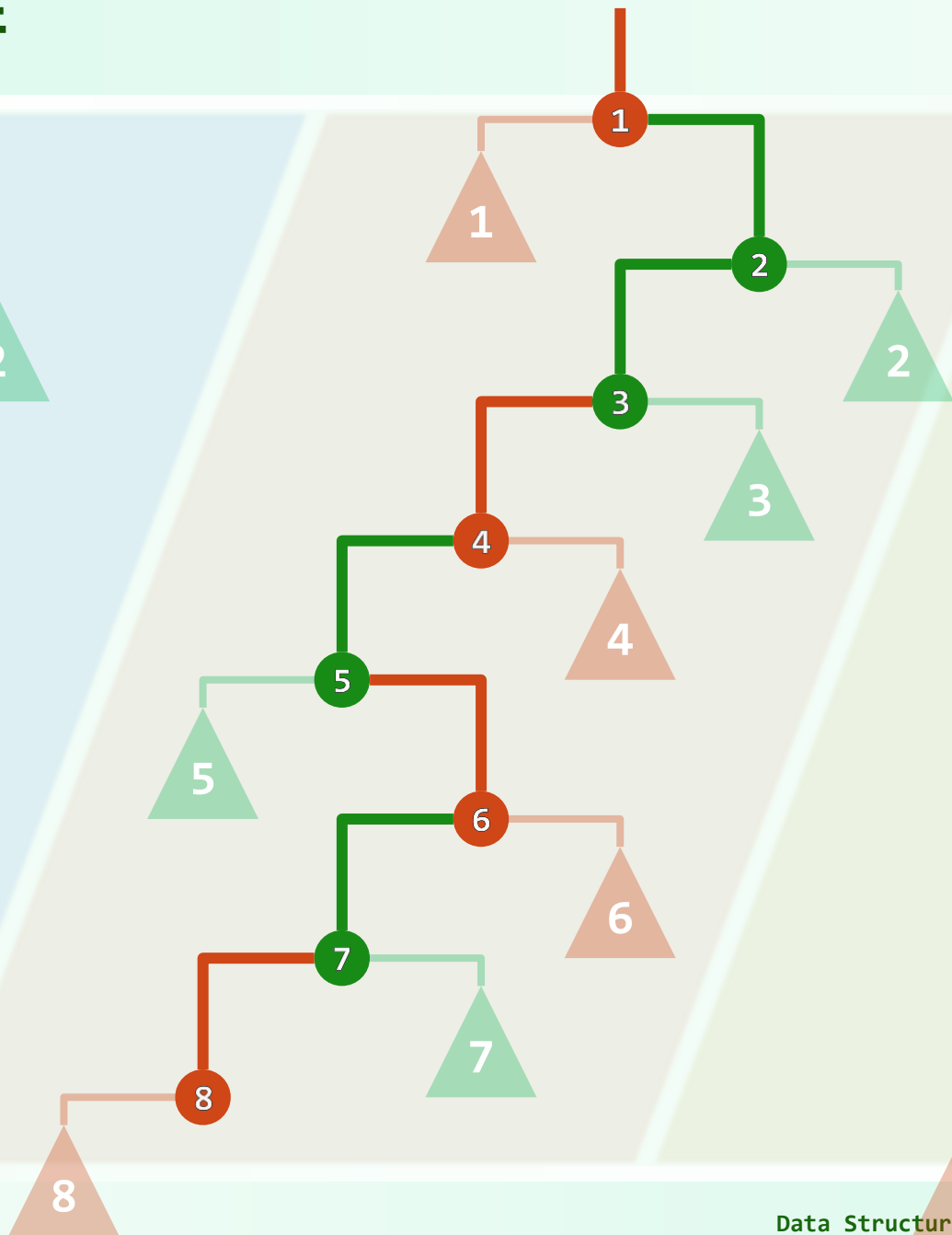
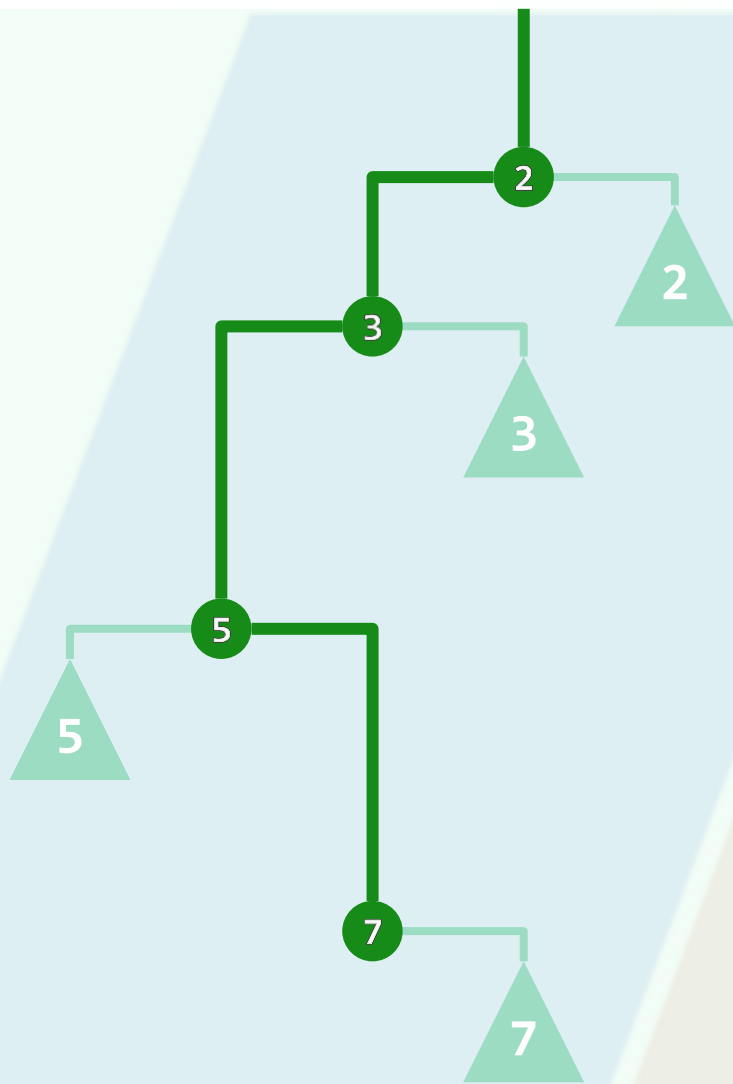
$O(m + n)$

❖ 有没有更好的办法? 比如...

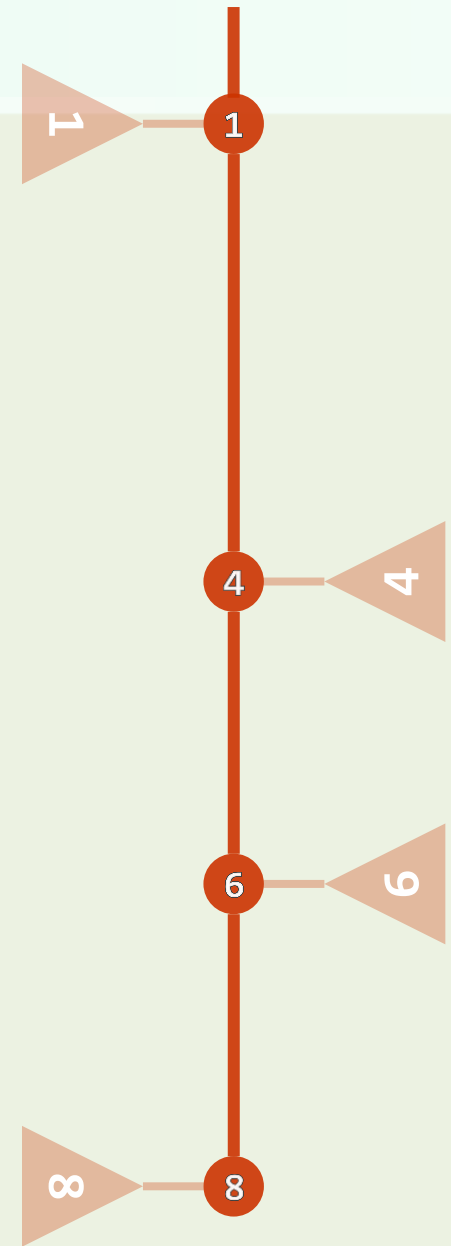
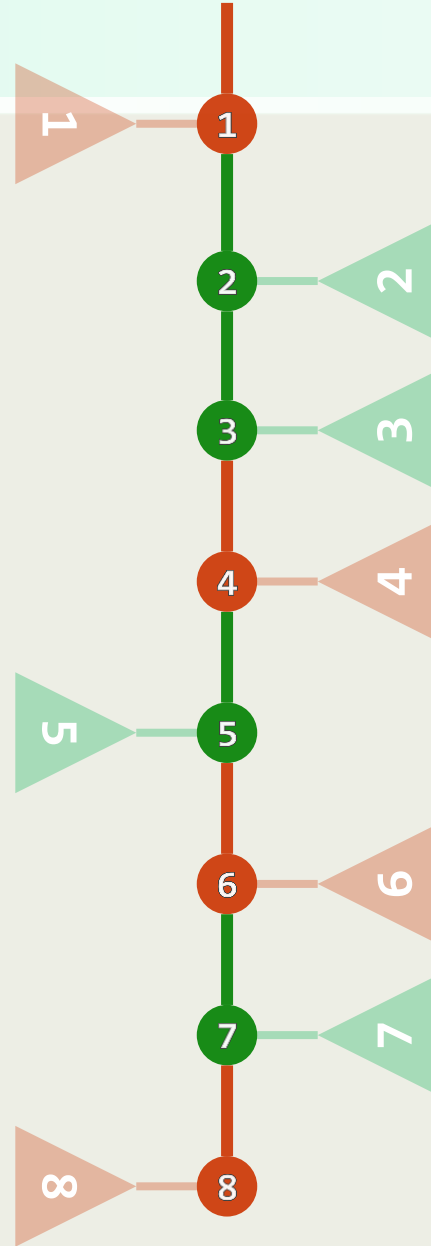
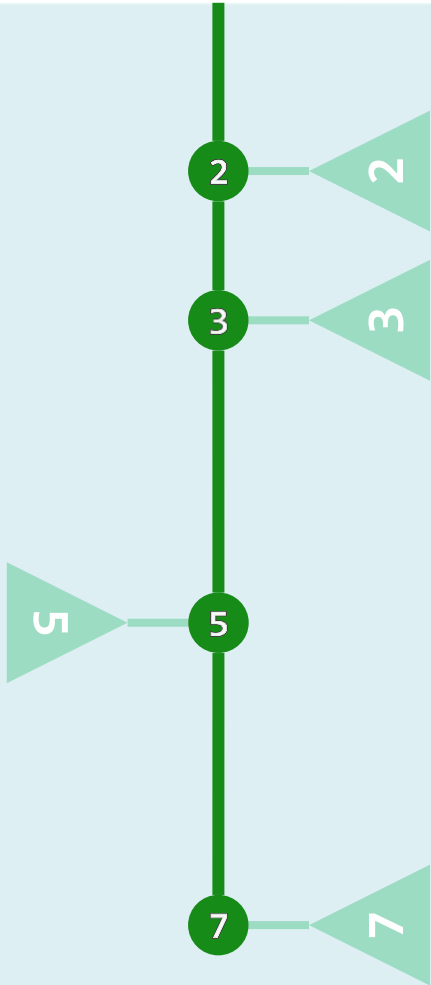
❖ 可否奢望在... $O(\log n)$...时间内实现 $\text{merge}()$?



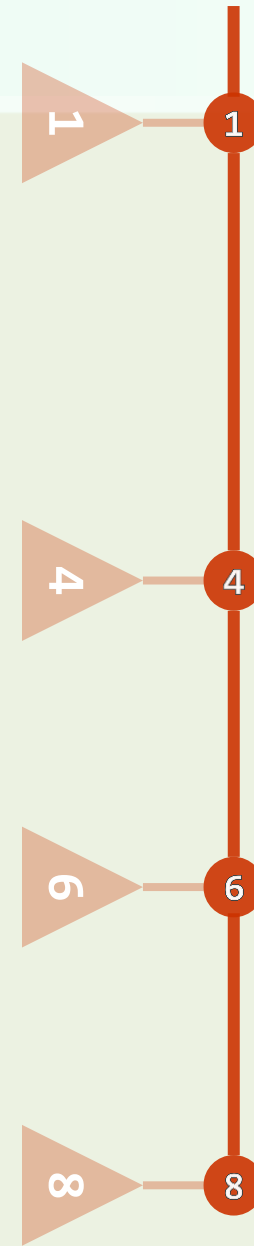
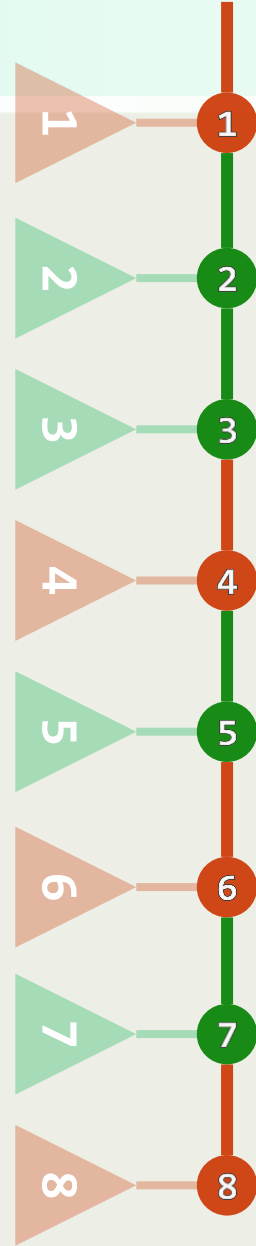
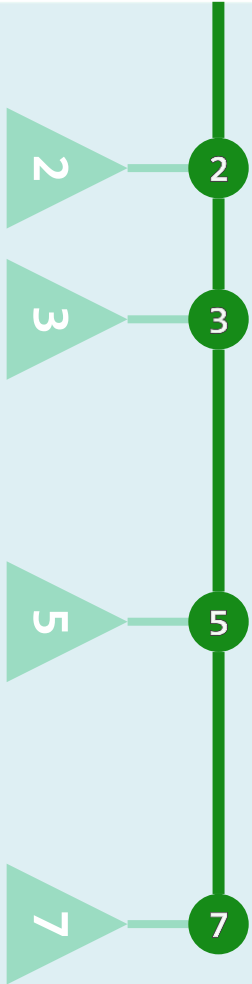
两堆合并 = 二路归并



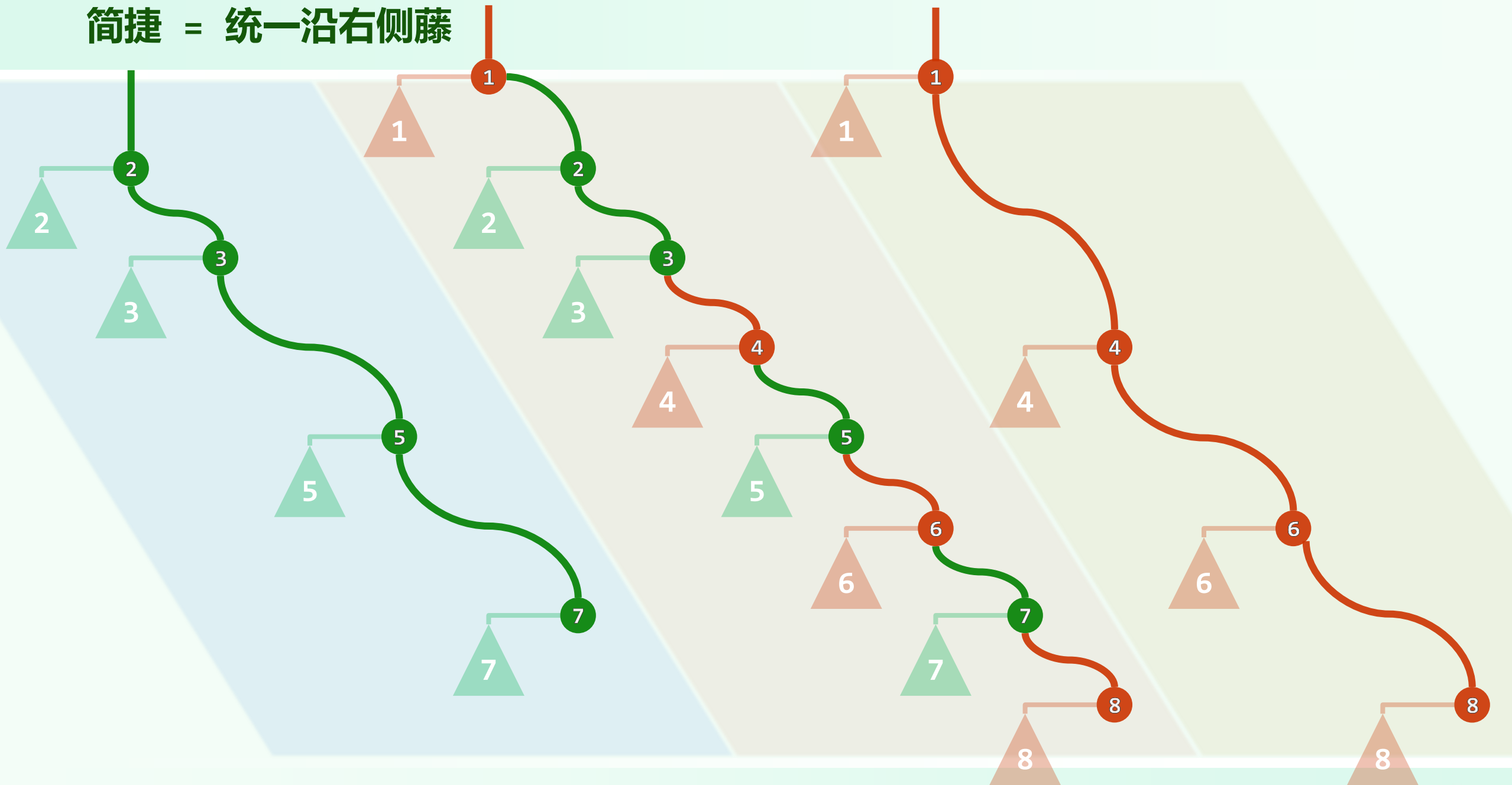
两堆合并 = 二路归并



简捷 = 统一沿右侧藤



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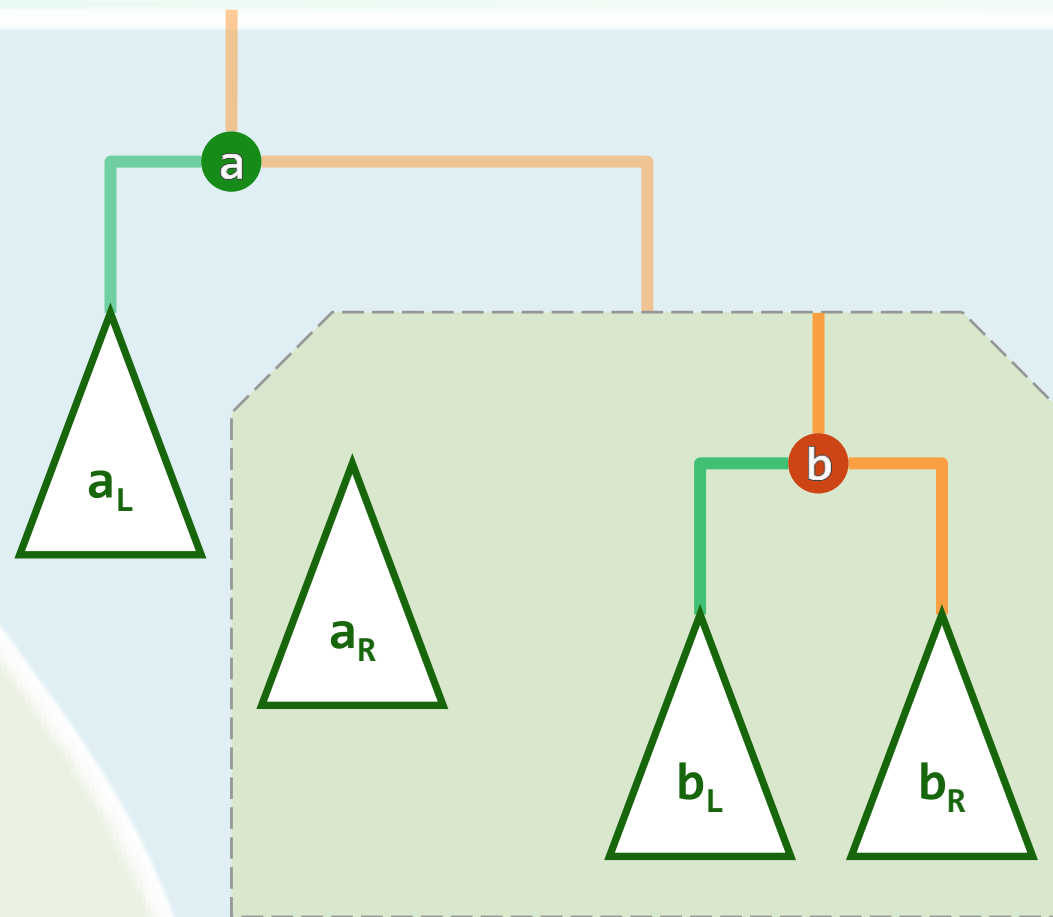
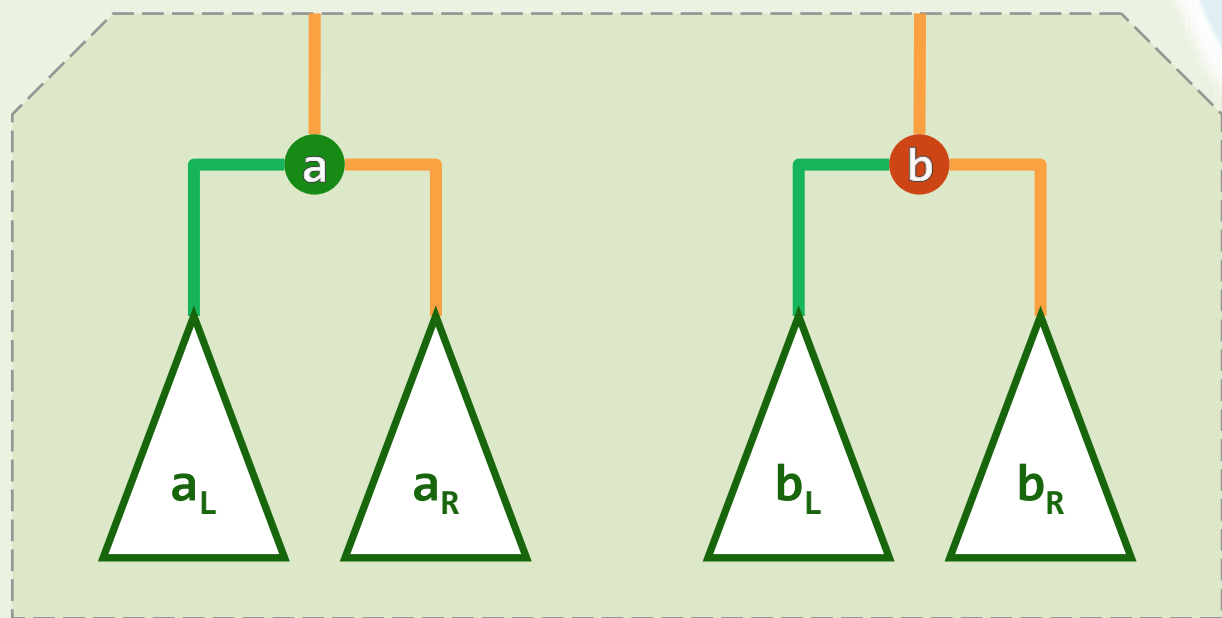


递归实现

所需时间 \propto 右侧藤总长

~~$\mathcal{O}(n)$~~

$\mathcal{O}(\log n)$



如何...控制藤长以...持续合并?