Binary Heap, Heap sort, Priority Queue

Binary Heap

Back

Next

Binary Heap

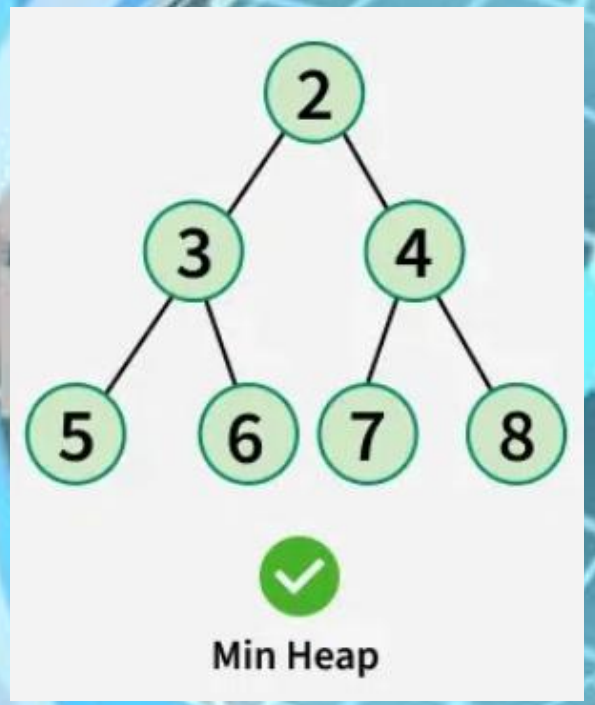
All levels are filled

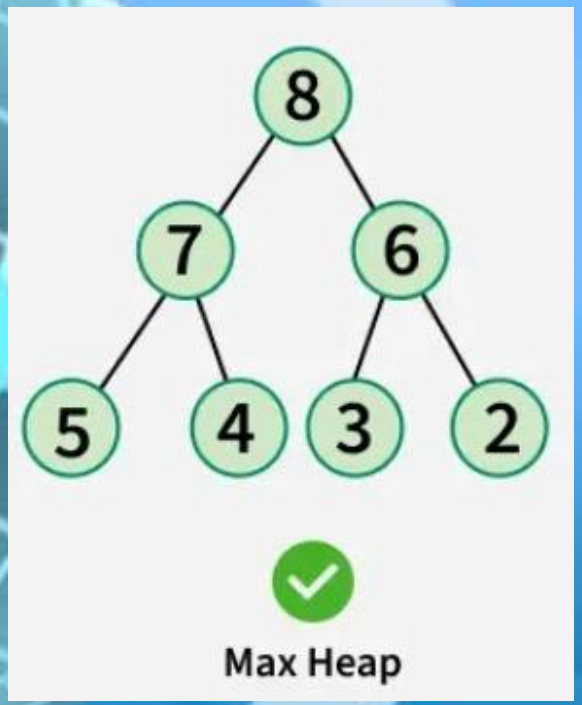
Min Heap: Root node must be the smallest

Max Heap: Root node must be the largest

used in priority queues and heap sort algorithms

efficient insertion and deletion





Heap Sort

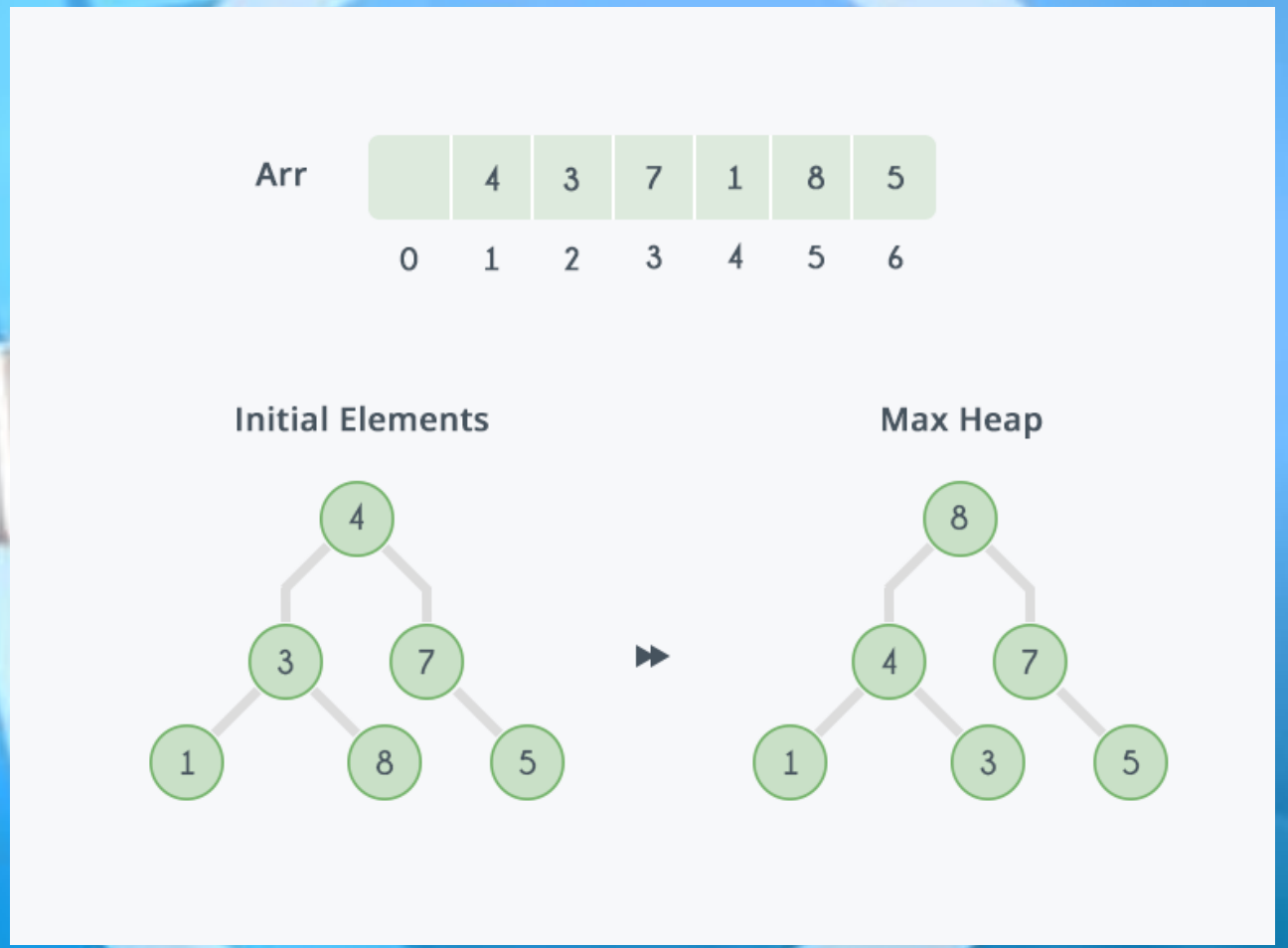
optimized version of selection sort.

efficient access to the max (or min) element in O(log n) time

Algorithm repeatedly finds the maximum (or minimum) element and swaps it with the last (or first) element.

Minimal Memory Usage

Easy to understand and implement



Priority Queue

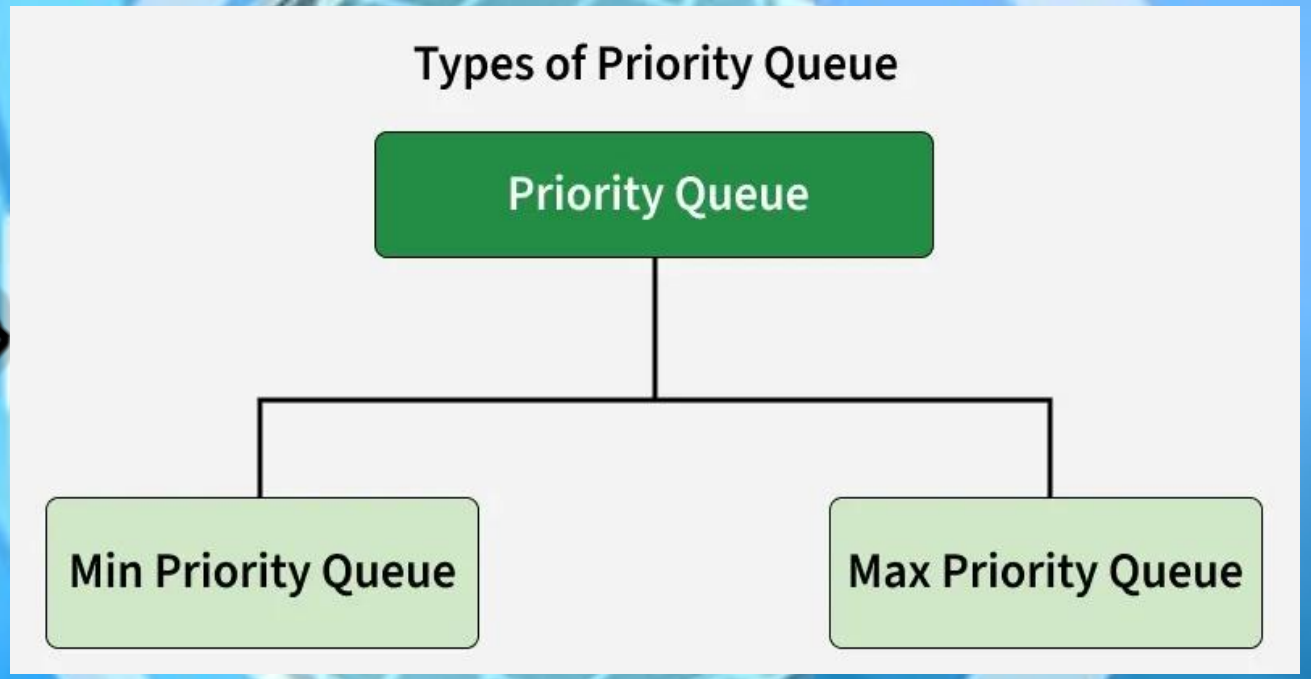
A type of queue where each element is associated with a priority value, and elements are served based on their priority rather than their insertion order.

Elements with higher priority are retrieved or removed before those with lower priority.

Types Of Priority Queues:

1. Max Heap

2. Min Heap



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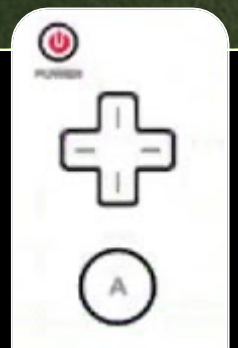
That’s All!

Q&A



P1 P2 P3 P4

Thank you for watching!