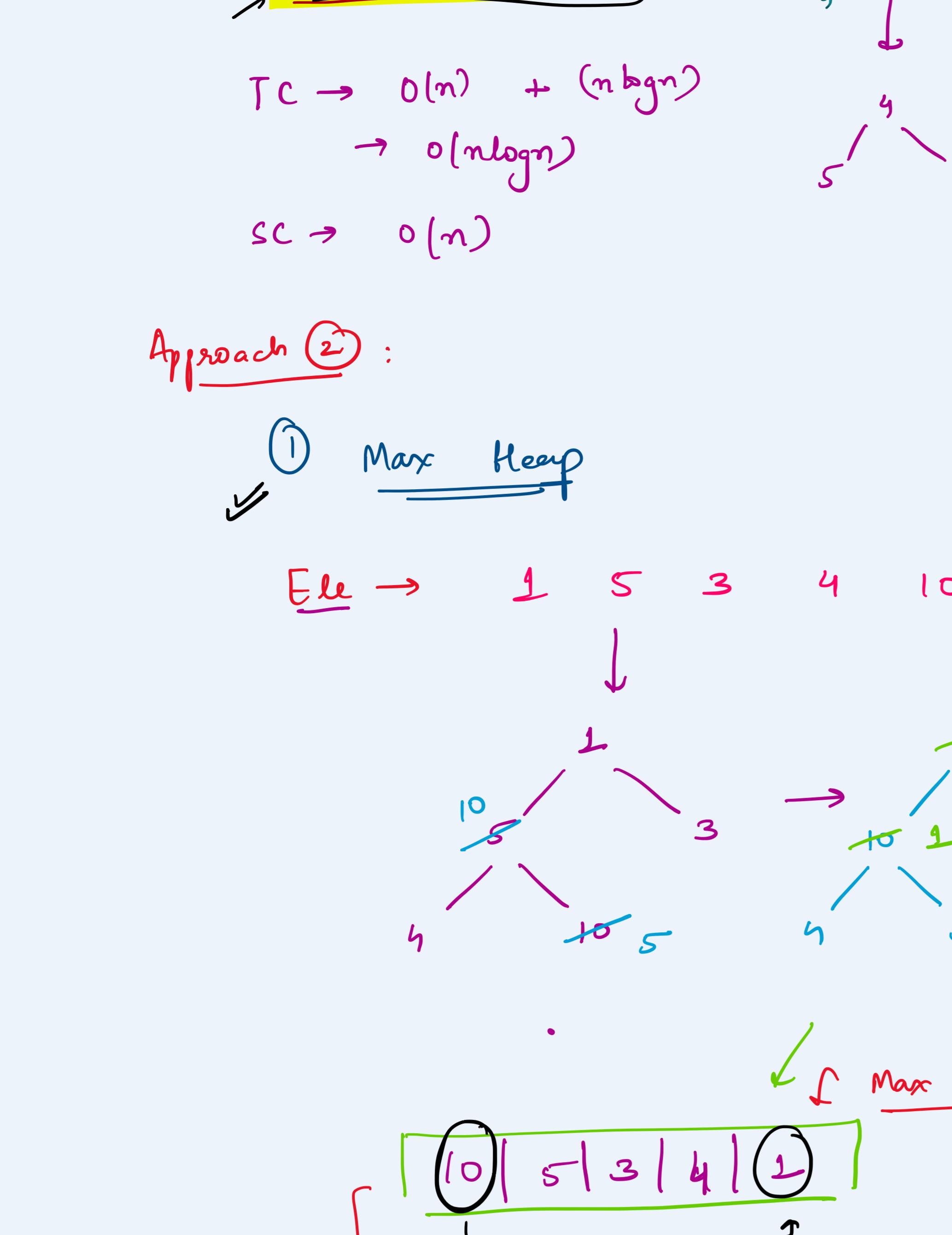
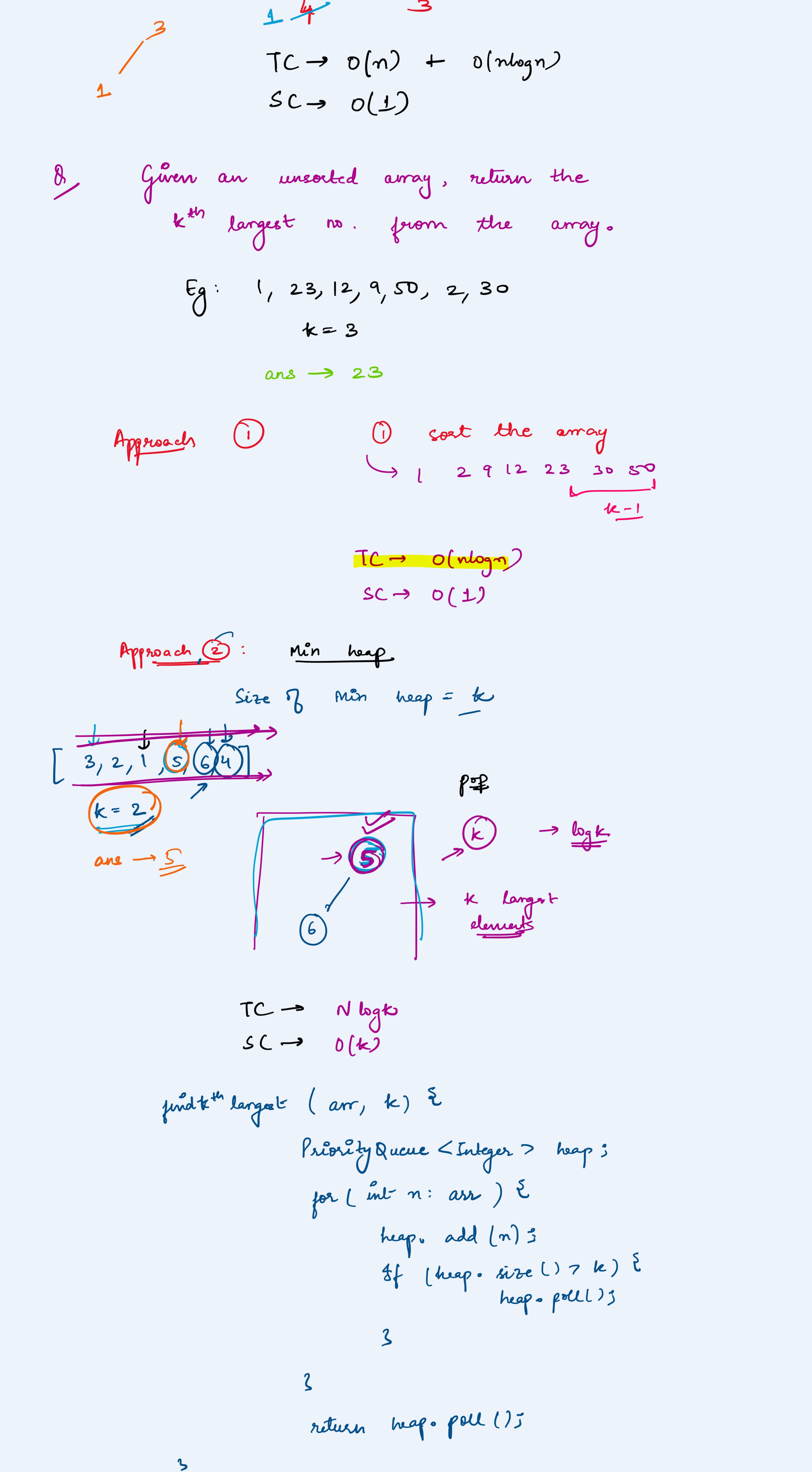
Approach ①Approach ②:

① Max Heap



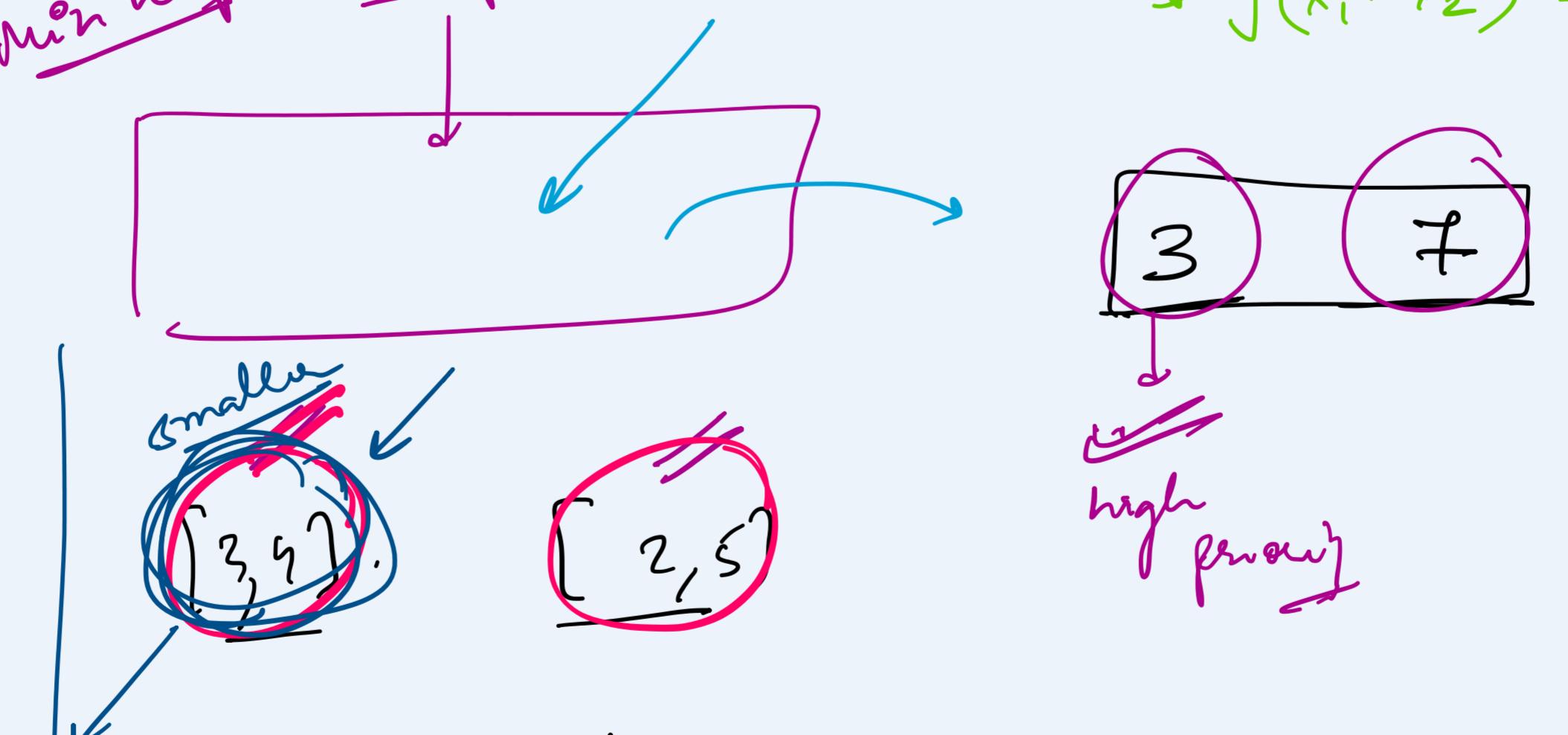
Given an unsorted array, return the k^{th} largest no. from the array.

Eg: 1, 23, 12, 9, 50, 2, 30
 $k=3$

ans → 23

Approach ①

① sort the array

 $\boxed{1 | 2 | 9 | 12 | 23 | 30 | 50}$ $\underline{k-1}$ TC → $O(n \log n)$ SC → $O(1)$ Approach ②: Min heapSize of min heap = \underline{k} TC → $N \log k$ SC → $O(k)$ find k^{th} largest (arr, k)

PriorityQueue<Integer> heap;

for (int n: arr) {

heap.add(n);

if (heap.size() > k) {

heap.poll();

}

return heap.poll();

}

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