# 373. Find K Pairs with Smallest Sums

## SOLUTION IN JAVA

class T {

public int i;

public int j;

public int sum; // nums1[i] + nums2[j]

public T(int i, int j, int sum) {

this.i = i;

this.j = j;

this.sum = sum;

}

}

class Solution {

public List<List<Integer>> kSmallestPairs(int[] nums1, int[] nums2, int k) {

List<List<Integer>> ans = new ArrayList<>();

Queue<T> minHeap = new PriorityQueue<>((a, b) -> a.sum - b.sum);

for (int i = 0; i < Math.min(k, nums1.length); ++i)

minHeap.offer(new T(i, 0, nums1[i] + nums2[0]));

while (!minHeap.isEmpty() && ans.size() < k) {

final int i = minHeap.peek().i;

final int j = minHeap.poll().j;

ans.add(Arrays.asList(nums1[i], nums2[j]));

if (j + 1 < nums2.length)

minHeap.offer(new T(i, j + 1, nums1[i] + nums2[j + 1]));

}

return ans;

}

}