**Heap**

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| **Easy Interview Questions on Heap Data Structure** | | | |
| 1. Kth smallest element in an array |  | 1. Height of a complete binary tree (or Heap) with N nodes |  |
| 1. Minimum product of k integers in an array of positive Integers |  | 1. Minimum sum of two numbers formed from digits of an array |  |
| 1. Sort an Almost Sorted Array |  | 1. Kth smallest element in a row-wise and column-wise sorted 2D array |  |
| 1. Top K Frequent Elements |  | 1. Sum of all elements between k1’th and k2’th smallest elements |  |
| **Medium Interview Questions on Heap Data Structure** | | | |
| 1. Implement a Min Heap |  | 1. Merge two binary max heaps |  |
| 1. Implement a Max Heap |  | 1. Find k closest numbers |  |
| 1. Heap Sort |  | 1. Sort an almost sorted array |  |
| 1. Convert max heap to min heap |  | 1. K maximum sum combinations from two arrays |  |
| 1. Convert min Heap to max Heap |  | 1. BST to max heap |  |
| 1. Check if a Binary Tree is a Min Heap |  | 1. Convert BST to Min Heap |  |
| 1. Check if a Binary Tree is a Max Heap |  | 1. K’th largest element in a stream |  |
| 1. Binary Heap |  | 1. Find k numbers with most occurrences in the given array |  |
| 1. Given level order traversal of a Binary |  | 1. Find the kth largest element in an array |  |
| 1. Tree, check if the Tree is a Min-Heap |  | 1. Merge overlapping intervals |  |
| 1. Implement a priority queue |  | 1. Game with String |  |
| 1. Heap Sort for decreasing order using min heap |  | 1. Maximize The Array |  |
| 1. Find kth smallest element in a row-column sorted matrix |  | 1. Rearrange characters |  |
| 1. Largest triplet product in a stream |  | 1. Minimum sum of squares of character counts in a given string after removing k characters |  |
| 1. Connect n ropes with minimum cost |  | 1. Maximum sum of at most two non-overlapping intervals in a list of Intervals |  |
| 1. Merge two binary max heaps |  | 1. K-th Largest Sum Contiguous Subarray |  |
| **Hard Interview Questions on Heap Data Structure** | | | |
| 1. Merge k sorted arrays |  | 1. Minimum cost to connect all cities |  |
| 1. Merge k Sorted Lists |  | 1. Single-Source Shortest Paths – Dijkstra’s Algorithm |  |
| 1. Find the median of a stream of running integers |  | 1. Sliding Window Maximum (Maximum of all subarrays of size K) |  |
| 1. Smallest range in K lists |  | 1. K maximum sum combinations from two arrays |  |
| 1. Huffman Encoding |  | 1. Merge two sorted arrays in O(1) extra space using Heap |  |

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| Link: <https://www.geeksforgeeks.org/top-50-problems-on-heap-data-structure-asked-in-interviews/> |

Subtopic of head

1. Array representation of Binary tree
2. Complete Binary tree
3. Heap
4. Insert and Delete
5. Heap sort
6. Heapify
7. Priority Queue