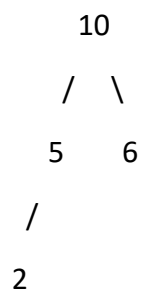
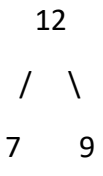
Merge Two Binary Max Heaps GFG

Given two binary max heaps as arrays, merge the given heaps to form a new max heap.

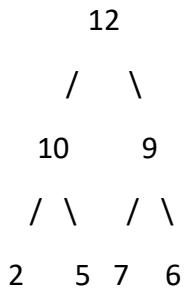
Example: Max Heap 1: [10, 5, 6, 2]



Max Heap 2: [12, 7, 9]



Output: [12, 10, 9, 2, 5, 7, 6]



Approach 1: Function to merge two max heaps represented by vectors a and b

- **Function Purpose:** To merge two max heaps represented by vectors 'a' and 'b' into a single max heap.
- **Explanation:**
    - The **mergeHeaps** function takes two max heaps represented by vectors 'a' and 'b' along with their sizes 'n' and 'm' as input.
    - It creates a new vector 'ans' to hold the merged max heap.
    - The elements from heap 'a' are copied into 'ans' first, followed by elements from heap 'b'.

    - After copying all the elements, max-heapify is performed on 'ans' starting from the last non-leaf node and working up to the root to maintain the max-heap property.
    - The merged max heap 'ans' is returned.
- **Time Complexity: O(n + m) for merging the two heaps and O((n + m) log(n + m)) for the max-heapify step.**
- **Space Complexity: O(n + m) for the merged max heap.**