

# Merge K Sorted List.

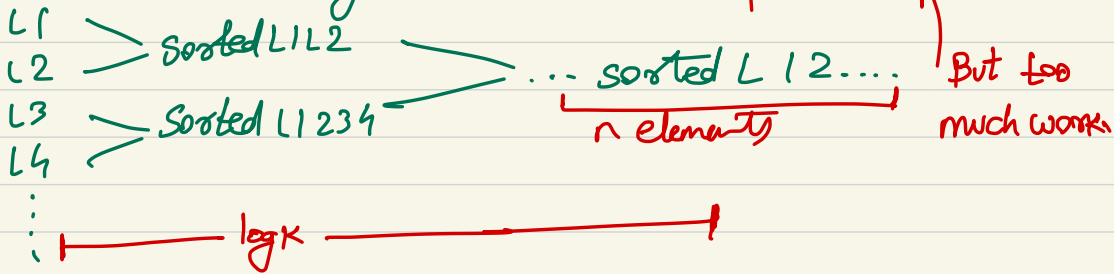
1 → 4 → 5  
1 → 3 → 4  
2 → 6

Brute Force:  
stick: 1 → 4 → 5 → 1 → 3 → 4 → 2 → 6  
sort: 1 → 1 → 2 → 3 → 4 → 4 → 5 → 6  
TC: Bad.  $O(N \lg N)$

Other Brute Force:

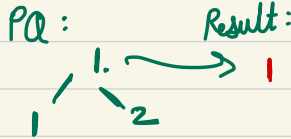
Use merge 2 sorted lists.

TC:  $O(N \lg K)$



Heuristic:  $K \Rightarrow$  Priority Queue

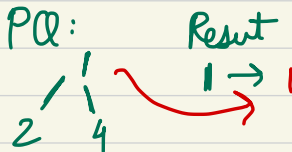
1 → 4 → 5  
1 → 3 → 4  
2 → 6



Min Heap because

we want minimum at each point.

1 → 4 → 5  
1 → 3 → 4  
2 → 6



Total N elements:

$O(N \lg K)$

1 → 4 → 5  
1 → 3 → 4  
2 → 6

