**Pseudo code for recursive :**

int Dominator(arr : array of integer, size : integer){

index 🡨 arr;

mergeSort(index,0,size-1); // O(nlogn) , // Merge sort

cnt 🡨 1;

domin 🡨 -5;

for i 🡨0 to size-1 { // O(n)

if index[i] = index[i+1] then {

cnt++;

if(cnt > size/2){

domin 🡨 index[i];

break;

}

}

}else{

cnt 🡨 1;

}

}

If( domin = -5){

return -1;

}

for j 🡨 0 to j < size{ //O(n)

if(arr[j] = domin){

print j ;

}

return 0; }

**Best Case :**

Ω(nlogn), when there is no dominator the algorithm will be ʘ(nlog(n)) + O(n)

**Worst Case :**

O(nlog(n)), when there is a dominator: ʘ(nlog(n) ) + 2O(n)