# 912. Sort an Array

## SOLUTION IN JAVA

class Solution {

public int[] sortArray(int[] nums) {

mergeSort(nums, 0, nums.length - 1);

return nums;

}

private void mergeSort(int[] A, int l, int r) {

if (l >= r)

return;

final int m = (l + r) / 2;

mergeSort(A, l, m);

mergeSort(A, m + 1, r);

merge(A, l, m, r);

}

private void merge(int[] A, int l, int m, int r) {

int[] sorted = new int[r - l + 1];

int k = 0; // sorted's index

int i = l; // left's index

int j = m + 1; // right's index

while (i <= m && j <= r)

if (A[i] < A[j])

sorted[k++] = A[i++];

else

sorted[k++] = A[j++];

while (i <= m)

sorted[k++] = A[i++];

while (j <= r)

sorted[k++] = A[j++];

System.arraycopy(sorted, 0, A, l, sorted.length);

}

}