```
public class DivideConcor {
	public static void main(String[] args) {
		int arr[] = { 12, 11, 10, 9, 8 };
		divide(arr, 0, arr.length - 1);
		System.out.println(Arrays.toString(arr));
	}
	static void divide(int[] arr, int s, int e) {// O(logN)
		if (s >= e)
			return;
		int mid = (s + e) / 2;
		divide(arr, s, mid);// sorting left part.
		divide(arr, mid + 1, e);// sorting right part.
		conquer(arr, s, mid, e);
	}
	static void conquer(int[] arr, int s, int mid, int e) { // O(n)
		int merged[] = new int[e - s + 1];
		int index1 = s; // starting index of first array
		int index2 = mid + 1; // starting index of second array
		int x = 0;
		while (index1 <= mid && index2 <= e) {
			if (arr[index1] < arr[index2])
				merged[x++] = arr[index1++];
			else
				merged[x++] = arr[index2++];
		}
		while (index1 <= mid)
			merged[x++] = arr[index1++];
		while (index2 <= e)
			merged[x++] = arr[index2++];
		for (int i = 0, j = s; i < merged.length; i++, j++) // copying to main array
			arr[j] = merged[i];
```