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public class mergedSort {
    public static int[] conquer(int[] left, int[] right) {
        int mergedArray[] = new int[left.length + right.length];

        int i = 0, j = 0, k = 0;

        while (i < left.length && j < right.length) {
            if (left[i] < right[j]) {
                mergedArray[k] = left[i++];
            } else {
                mergedArray[k] = right[j++];
            }
            k++;
        }

        while (i < left.length) {
            mergedArray[k++] = left[i++];
        }

        while (j < right.length) {
            mergedArray[k++] = right[j++];
        }

        return mergedArray;
    }

    public static int[] divide(int arr[]) {
        if (arr.length == 1) {
            return arr;
        }

        int mid = arr.length / 2;

        int left[] = new int[mid];
        int right[] = new int[arr.length - mid];

        for (int i = 0; i < mid; i++) {
            left[i] = arr[i];
        }

        for (int i = mid; i < arr.length; i++) {
            right[i - mid] = arr[i];
        }

        left = divide(left);
        right = divide(right);

        return conquer(left, right);
    }

    public static void main(String[] args) {
        int arr[] = { 5, 3, 4, 2, 1 };
        int[] result = divide(arr);

        for (int i = 0; i < arr.length; i++) {
            System.out.print(result[i] + " ");
        }
    }
}

```