**#include <stdio.h>**

**void merge(int arr[], int l, int m, int r) {**

**int i, j, k;**

**int n1 = m - l + 1;**

**int n2 = r - m;**

**int L[n1], R[n2];**

**for (i = 0; i < n1; i++)**

**L[i] = arr[l + i];**

**for (j = 0; j < n2; j++)**

**R[j] = arr[m + 1 + j];**

**i = 0; j = 0; k = l;**

**while (i < n1 && j < n2) {**

**if (L[i] <= R[j])**

**arr[k++] = L[i++];**

**else**

**arr[k++] = R[j++];**

**}**

**while (i < n1)**

**arr[k++] = L[i++];**

**while (j < n2)**

**arr[k++] = R[j++];**

**}**

**void mergeSort(int arr[], int l, int r) {**

**if (l < r) {**

**int m = l + (r - l) / 2;**

**mergeSort(arr, l, m);**

**mergeSort(arr, m + 1, r);**

**merge(arr, l, m, r);**

**}**

**}**

**int main() {**

**int arr[] = {02, 72, 32, 00, 05, 10, 12, 96};**

**int n = sizeof(arr) / sizeof(arr[0]);**

**mergeSort(arr, 0, n - 1);**

**printf("Sorted array: ");**

**for (int i = 0; i < n; i++)**

**printf("%d ", arr[i]);**

**return 0;**

**}**