```
#include <stdio.h>
void merge(int arr[], int left, int mid, int right) {
    int i, j, k;
    int n1 = mid - left + 1;
    int n2 = right - mid;
    int L[n1], R[n2];

    for (i = 0; i < n1; i++)
        L[i] = arr[left + i];
    for (j = 0; j < n2; j++)
        R[j] = arr[mid + 1 + j];

      i = 0;
    j = 0;
k = left;

    while (i < n1 && j < n2) {
        if (L[i] <= R[j]) {
            arr[k] = L[i];
            i++;
        } else {
            arr[k] = R[j];
            j++;
        }
        k++;
    }
    while (i < n1) {
        arr[k] = L[i];
        i++;
        k++;
    }
    while (j < n2) {
        arr[k] = R[j];
        j++;
        K++
}
}
void mergeSort(int arr[], int left, int right) {
    if (left < right) {
        int mid = (left + right) / 2;
        mergeSort(arr, left, mid);
        mergeSort(arr, mid + 1, right);
        merge(arr, left, mid, right);
    }
```

```
}
void printArray(int arr[], int size) {
    printf("Sorted array: ");
    for (int i = 0; i < size; i++)
        printf("%d ", arr[i]);
    printf("\n");
}
int main() {
    int arr[50], n, i;
    printf("Enter number of elements: ");
    scanf("%d", &n);
    printf("Enter %d integers:\n", n);
    for (i = 0; i < n; i++)
        scanf("%d", &arr[i]);
    mergeSort(arr, 0, n - 1);
    printArray(arr, n);
    return 0;
}
```