```cpp
// merge to given sorted arrays.cpp : This file contains the 'main' function.
Program execution begins and ends there.
//

#include <iostream>
using namespace std;
void merge(int arr[], int l, int r, int m)
{
    int i, j, k;
    int n1 = m - l + 1;
    int n2 = r - m;
    int* left = new int[n1]; int* right = new int[n2];
    for (int i = 0; i < n1; i++)
        left[i] = arr[l + 1];

    for (int j = 0; j < n2; j++)
        right[j] = arr[m+j+ 1];
    i = j = 0;
    k = l;
    while (i < n1 && j < n2)
    {
        if (left[i] <= right[j]) {
            arr[k] = left[i];
            i++;
        }
        else {
            arr[k] = right[j];
            j++;
        }
        k++;
    }

    while (i < n1)
    {
        arr[k] = left[i];
        i++;
        k++;
    }

    while (j < n2)
    {
        arr[k] = right[j];
        j++;
        k++;
    }
}

void mergeSort(int arr[], int l, int r)
{
    if (l < r)
    {
        int mid = (l + r) / 2;
        mergeSort(arr, l, r);
        mergeSort(arr, mid+1, r);
        merge(arr, l, r, mid);
    }
}
int main()
```

```cpp
{
    int arr[10] = { 10,50,40,2,5,80};
    int size = sizeof(arr) / sizeof(arr[0]);
    cout << "before merge sort....." << endl;
    for (int i = 0; i < size; i++)
        cout << arr[i] << " ";

    mergeSort(arr, 0, size - 1);
    cout << "after merge sort....." << endl;
    for (int i = 0; i < size; i++)
        cout << arr[i] << " ";
}
```