Write a C program to merge two given sorted arrays (sorted in ascending order). The code for input and output is already written. You have to write the merge function so that the merged array is displayed in ascending order.

Sample Test Cases

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 20 30 60 70 80 3 10 50 100</td>
<td>Sorted array: 10 20 30 50 60 70 80 100</td>
</tr>
</tbody>
</table>

Test Case 1
The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Sample solutions (Provided by instructor)

```c
#include <stdio.h>
void merge(int a[], int m, int b[], int n, int sorted[]);

int main()
{
    int a[100], b[100], m, n, c, sorted[200];
    /* a[100] and b[100] are the two given arrays and m and n are the their
    number of elements in first array
    scanf("%d", &m); //Number of elements in the first array
    for (c = 0; c < m; c++)
    {
        scanf("%d", &a[c]); //Elements of first array is read
    }
    scanf("%d", &n); //Number of elements in second array
    for (c = 0; c < n; c++)
    {
        scanf("%d", &b[c]); //Elements of second array is read
    }
    merge(a, m, b, n, sorted);
    //The merged function is called where the two arrays are merged and so:
    printf("Sorted array:\n");
    for (c = 0; c < m + n; c++)
    {
        printf("%d\n", sorted[c]);
    }
    return 0;
}

void merge(int a[], int m, int b[], int n, int sorted[])
{
    int i, j, k;
    j = k = 0;
    for (i = 0; i < m + n;)
    {
        if (j < m && k < n)
        {
            if (a[j] < b[k])
            {
                sorted[i] = a[j];
                j++;
            }
        }
    }
```
```c
46     else {
47         sorted[i] = b[k];
48         k++;
49     }  
50     i++;
51     }
52     else if (j == m) {
53         for (; l < m + n;) {
54             sorted[i] = b[k];
55             k++;
56             l++;
57         }
58     }
59     else {
60         for (; i < m + n;) {
61             sorted[i] = a[j];
62             i++;
63         }
64     }
65 }
66 ```