

```

#include<stdio.h>

void merge(int a[], int l,int mid,int h)
{
    int i,j,k,b[h];
    i=l;
    k=l;
    j=mid+1;

    while(i<=mid && j<=h)
    {
        if(a[i]<a[j])
        {
            b[k++]=a[i++];
        }

        else
        {
            b[k++]=a[j++];
        }
    }

    while(i<=mid)
    {
        b[k++]=a[i++];
    }

    while(j<=h)
    {
        b[k++]=a[j++];
    }

    for(i=l;i<=h;i++)
    {
        a[i]=b[i];
    }
}

void mergesort(int a[],int l,int h)
{
    int mid;
    if(l<h)
    {
        mid=(l+h)/2;
        mergesort(a,l,mid);
        mergesort(a,mid+1,h);
        merge(a,l,mid,h);
    }
}

void printArray(int a[], int size) {
    for (int i = 0; i < size; i++) {
        printf("%d \t", a[i]);
    }
    printf("\n");
}

int main()
{

```

```
    int arr[] = {10, 7, 8, 9, 1, 5, 11, 6};
    int n = sizeof(arr) / sizeof(arr[0]);

    printf("Original array: ");
    printArray(arr, n);
    printf("\n");
    mergesort(arr, 0, n - 1);
    printf("\n");
    printf("Sorted array: ");
    printArray(arr, n);

    return 0;
}
```