```
#include<stdio.h>
#include<conio.h>
#define MAX 50

void mergeSort(int arr[],int low,int mid,int high);
void partition(int arr[],int low,int high);

int main(){
int merge[MAX],i,n;
printf("Enter the total number of elements: ");
scanf("%d",&n);

printf("Enter the elements which to be sort: ");
for(i=0;i<n;i++){
 scanf("%d",&merge[i]);
  }
 partition(merge,0,n-1);
 printf("After merge sorting elements are: ");
for(i=0;i<n;i++){
printf("%d ",merge[i]);
}
getch();
```

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return 0; }

void partition(int arr[],int low,int high){
int mid;
if(low<high){
mid=(low+high)/2;
partition(arr,low,mid);
partition(arr,mid+1,high);
mergeSort(arr,low,mid,high);
} }

void mergeSort(int arr[],int low,int mid,int high){
 int i,m,k,l,temp[MAX];
 l=low;
i=low;
m=mid+1;

while((l<=mid)&&(m<=high)){
 if(arr[l]<=arr[m]){
 temp[i]=arr[l];
l++;
}
```

```
else{
temp[i]=arr[m];
m++;
}
i++;
}
if(l>mid){
for(k=m;k<=high;k++)
{
temp[i]=arr[k];
i++;
}
}
else{
for(k=l;k<=mid;k++)
{
temp[i]=arr[k];
i++;
}
}
for(k=low;k<=high;k++)
{
```

```
arr[k]=temp[k];
}
}
```