```
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#include <iostream>
using namespace std;
void merge(int arr[], int beg, int mid, int end){
   int i = beg;
   int j = mid+1;
   int temp[end-beg+1];
   int k = 0;
   while(i<=mid && j<=end){
      if(arr[i] <= arr[j])
         temp[k++] = arr[i++];
      else
         temp[k++] = arr[j++];
   }
   while(i<=mid)
      temp[k++] = arr[i++];

   while(j<=end)
      temp[k++] = arr[j++];

   for(k=0;k<end-beg+1;k++)
      arr[beg+k] = temp[k];

   return;
}


void mergeSort(int arr[], int beg, int end){
   if(beg<end){
      int mid = beg+(end-beg)/2;
      mergeSort(arr, beg, mid);
      mergeSort(arr, mid+1, end);
      merge(arr, beg, mid, end);
   }
}


int main() {
   int arr[10] = {3, 5, 32, 29, 10, 43, -10, 33, 2,
-4};
   int n = 10;
   cout<<"Before sorting:"<<endl;
   for(int i=0;i<n;i++){
      cout<<arr[i]<<" ";
   }
   cout<<endl;

   mergeSort(arr, 0, 9);
   cout<<"After sorting:"<<endl;
   for(int i=0;i<n;i++){
      cout<<arr[i]<<" ";
   }
   cout<<endl;



   return 0;
}
```

OUTPUT:

```
/tmp/umIx7BM7yt.o
Before sorting:
3 5 32 29 10 43 -10 33 2 -4
After sorting:
-10 -4 2 3 5 10 29 32 33 43
```