//QUICK SORT

#include<stdio.h>

int partition(int a[],int low,int high)

{

int temp;

int left=low,pivot=a[low],right=high;

while(left<right)

{

while(a[left]<=pivot)

{left++;}

while(a[right]>pivot)

{right--;}

if(left<right)

{

temp=a[left];

a[left]=a[right];

a[right]=temp;

}

}

a[low]=a[right];

a[right]=pivot;

return right;

}

void quicksort(int a[],int l,int r)

{

if(l<r)

{

int s;

s=partition(a,l,r);

quicksort(a,l,s-1);

quicksort(a,s+1,r);

}

}

void main()

{

int n,i;

printf("Enter the size of the array ");

scanf("%d",&n);

int a[n];

printf("Enter the elements\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

quicksort(a,0,n-1);

printf("\nThe sorted array is\n");

for(i=0;i<=n-1;i++)

{

printf("%d",a[i]);

}

printf("\n");

}