#include <iostream>

using namespace std;

#include <conio.h>

void merge(int \*,int, int , int );

void mergesort(int \*a, int low, int high)

{

int mid;

if (low < high)

{

mid=(low+high)/2;

mergesort(a,low,mid);

mergesort(a,mid+1,high);

merge(a,low,high,mid);

}

return;

}

void merge(int \*a, int low, int high, int mid)

{

int i, j, k, c[50];

i = low;

k = low;

j = mid + 1;

while (i <= mid && j <= high)

{

if (a[i] < a[j])

{

c[k] = a[i];

k++;

i++;

}

else

{

c[k] = a[j];

k++;

j++;

}

}

while (i <= mid)

{

c[k] = a[i];

k++;

i++;

}

while (j <= high)

{

c[k] = a[j];

k++;

j++;

}

for (i = low; i < k; i++)

{

a[i] = c[i];

}

}

int main()

{

int a[20], i, b[20];

cout<<"enter the elements\n";

for (i = 0; i < 5; i++)

{

cin>>a[i];

}

mergesort(a, 0, 4);

cout<<"sorted array\n";

for (i = 0; i < 5; i++)

{

cout<<a[i];

}

cout<<"enter the elements\n";

for (i = 0; i < 5; i++)

{

cin>>b[i];

}

mergesort(b, 0, 4);

cout<<"sorted array\n";

for (i = 0; i < 5; i++)

{

cout<<b[i];

}

system("pause");

}