/\*

name : AMit swAMi

Roll no. 2221018

FDS Assignment 11

\*/

#include <iostream>

using namespace std;

class myclass

{

public:

void quick(int a[], int l, int h);

int partition(int a[], int l, int h);

};

int myclass::partition(int a[], int l, int h)

{

int i, j, temp, key;

key = a[l];

i = l + 1;

j = h;

while (i <= j)

{

while (a[i] <= key)

{

i++;

}

while (a[j] > key)

{

j--;

}

if (i < j)

{

temp = a[i];

a[i] = a[j];

a[j] = temp;

}

}

key = a[l];

a[l] = a[j];

a[j] = key;

return j;

}

void myclass::quick(int a[], int l, int h)

{

int j;

if (l < h)

{

j = partition(a, l, h);

quick(a, l, j - 1);

quick(a, j + 1, h);

}

}

int main()

{

myclass ob;

int a[100], n, i;

cout << "enter size of array :" << endl;

cin >> n;

cout << "enter all element of array:" << endl;

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

{

cin >> a[i];

}

ob.quick(a, 0, n - 1);

cout << "the sorted array = " << endl;

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

{

cout << a[i] << " " << endl;

}

}