# Program:

#include<iostream> //Quick Sort

using namespace std;

int partition(int a[30], int l, int r)

{

int temp, p, i, j;

p = a[l];

i = l;

j = r + 1;

do

{

do

{

i++;

} while (a[i]<p);

do

{

j--;

} while (a[j]>p);

temp = a[i]; //swap a[i] and a[j]

a[i] = a[j];

a[j] = temp;

} while (i<j);

temp = a[i]; //swap a[i] and a[j]

a[i] = a[j];

a[j] = temp;

temp = a[l]; //swap a[l] and a[j]

a[l] = a[j];

a[j] = temp;

return j;

}

void quicksort(int a[30], int l, int r)

{

int s;

if (l<r)

{

s = partition(a, l, r);

quicksort(a, l, s - 1);

quicksort(a, s + 1, r);

}

}

int main()

{

int a[30], n, k = 0;

cout << "\n\nEnter the size of the array: ";

cin >> n;

cout << "\n\nEnter the elements\n";

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

cin >> a[i];

quicksort(a, k, n - 1);

cout << "\nSorted Array:\n";

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

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

return 0;

}