Quick Sort Code:

#include <bits/stdc++.h>

using namespace std;

int cnt = 0;

int partition(int lo, int hi, vector<int> &v)

{

cnt++;

int pivot = v[lo];

int i = lo; int j = hi + 1;

while(i <= j)

{

if(v[i] <= pivot)i++;

if(v[j] > pivot)j--;

if(i < j)swap(v[i], v[j]);

}

swap(v[lo], v[j]);

return j;

}

void qs(int lo, int hi, vector<int> &v)

{

if(lo < hi)

{

int pivot = partition(lo, hi, v);

//cout << pivot << endl;

// if(cnt == 2)return;

cout << "IN range " << lo << " to " << hi << "\n";

cout << "Pivot: " << v[pivot] << "\n";

cout << "Left ";

for(int i = lo; i < pivot; i++)cout << v[i] << " ";

cout << "\n";

cout << "Right: ";

for(int i = pivot + 1; i <= hi; i++)cout << v[i] << " ";

cout << "\n";

qs(lo, pivot - 1, v);

qs(pivot + 1, hi, v);

}

}

int main()

{

cout << "Enter the number of elements\n";

int n; cin >> n;

vector<int> v(n + 1);

cout << "Enter the elements\n";

for(int i = 0; i < n; i++)cin >> v[i];

v[n] = 1e9;

qs(0, n - 1,v);

cout << "After Sorting\n";

for(int i = 0; i < n; i++)cout << v[i] << " ";

}

