

```

1  #include<iostream>
2  using namespace std;
3  void Swap(int *a,int *b)
4  {
5      if(*a!=*b)
6      { *a=*a+*b;
7        *b=*a-*b;
8        *a=*a-*b;}
9  }
10 int partion(int a[],int low,int high)
11 {
12     int pi;
13     pi=high;
14     int l,h;
15
16     l=low;
17     h=high-1;
18     //cout<<"A"<<l<<h<<endl;
19
20     while(l<h)
21     {
22         while(a[l]<a[pi]&& l<h)
23         {
24             l=l+1;
25         }
26
27         while(a[h]>a[pi] && l<h)
28         {
29             h=h-1;
30         }
31
32         Swap(&a[l],&a[h]);
33
34     }
35     if(a[pi]<a[h])
36     {Swap(&a[pi],&a[h]);
37      pi=h;
38     }
39     else{pi=h+1;}
40
41     return pi;
42 }
43
44
45 void quick_sort(int a[],int low,int high)
46 {
47     int pi;
48     int l,h;
49     //l=low;
50     //h=high;
51     if(low<high)
52     {
53         pi=partion(a,low,high);
54         if(low<(pi-1))
55             {quick_sort(a,low,pi-1);}
56         if((pi+1)<high)
57             {
58                 quick_sort(a,pi+1,high);
59             }
60     }
61 }
62
63 int main()
64 {
65
66     int n,i;

```

```
67     cin>>n;
68     int a[n];
69     for(i=0;i<n;i++)
70     {
71         cin>>a[i];
72     }
73     quick_sort(a,0,n-1);
74     for(i=0;i<n;i++)
75     {
76         cout<<a[i]<<" ";
77     }
78 }
```