```cpp
#include<iostream>
using namespace std;
void Swap(int *a,int *b)
{
    if(*a!=*b)
    {*a=*a+*b;
    *b=*a-*b;
    *a=*a-*b;}
}
int partion(int a[],int low,int high)
{
    int pi;
    pi=high;
    int l,h;

    l=low;
    h=high-1;
    //cout<<"A"<<l<<h<<endl;

    while(l<h)

    {
        while(a[l]<a[pi]&& l<h)
        {
         l=l+1;
        }

        while(a[h]>a[pi] && l<h)
        {
        h=h-1;
        }

        Swap(&a[l],&a[h]);

    }
if(a[pi]<a[h])
{Swap(&a[pi],&a[h]);
pi=h;
}
else{pi=h+1;}

    return pi;
}

void quick_sort(int a[],int low,int high)
{
    int pi;
    int l,h;
//l=low;
//h=high;
    if(low<high)
    {
        pi=partion(a,low,high);
      if(low<(pi-1))
        {quick_sort(a,low,pi-1);}
        if((pi+1)<high)
        {
            quick_sort(a,pi+1,high);
        }

}
}
int main()
{

    int n,i;
```

```cpp
    cin>>n;
    int a[n];
    for(i=0;i<n;i++)
    {
        cin>>a[i];
    }
    quick_sort(a,0,n-1);
    for(i=0;i<n;i++)
    {
        cout<<a[i]<<" ";
    }
}
```