//quick sort

#include <stdio.h>

#include <stdlib.h>

void interchange(int a[],int i,int j)

{

int temp;

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

int partion(int a[],int l,int h)

{ int pivot=a[l],i=l,j=h+1;

do

{ do

{

i++;

}while(a[i]<pivot && i<=j);

do

{

j--;

}while(a[j]>=pivot);

if(i<j)

{

interchange(a,i,j);

}

}while(i<j);

interchange(a,l,j);

return j;

}

void quicksort(int a[],int l,int h)

{ int j;

if(l<h)

{j=partion(a,l,h);

quicksort(a,l,j-1);

quicksort(a,j+1,h);

}

}

void printarr(int a[],int n)

{

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

{

printf("%d,",a[i]);

}

}

int main()

{

int a[100],n;

printf("enter the size of the array");

scanf("%d",&n);

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

{ printf("enter element %d:",i+1);

scanf("%d",&a[i]);

}

printf("before sorting:");

printarr(a,n);

printf("after sorting");

quicksort(a,0,n-1);

printarr(a,n);

return 0;

}

Output:

enter the size of the array5

enter element 1:5

enter element 2:4

enter element 3:3

enter element 4:2

enter element 5:1

before sorting:5,4,3,2,1,after sorting