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Write a program to sort an array using quicksort.

**Code**

#include <stdio.h>

void swap(int \*x, int \*y)

{

int temp = \*x;

\*x= \*y;

\*y = temp;

}

int partition(int a[], int p , int r)

{

int x,i,j;

x= a[r];

i=p-1;

for(j=p;j<r;j++)

{

if(a[j]<x)

{

i++;

swap(&a[i],&a[j]);

}

}

swap(&a[i+1], &a[r]);

return i+1;

}

void quicksort(int a[], int p , int r)

{

int q;

if (p<r)

{

q = partition(a,p,r);

quicksort(a,p,q-1);

quicksort(a,q+1,r);

}

}

int main()

{

int n,a[1000],i;

printf("Enter the size of array: ");

scanf("%d",&n);

printf("Enter the array elements: ");

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

{

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

}

quicksort(a,0,n-1);

printf("The array after sorting: \n");

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

{

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

}

return 0;

}

**Output**

