Lab 3 : Quick sort

#include<stdio.h>

#include<stdlib.h>

void swap(int\* a,int\* b)

{

int temp=\*a;

\*a=\*b;

\*b=temp;

}

int partition(int arr[],int low,int high)

{

int p=arr[low];

int i=low;

int j=high;

while(i<j)

{

while(arr[i]<=p && i<=high-1)

{

i++;

}

while(arr[j]>p && j>=low+1)

{

j--;

}

if(i<j)

{

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

}

}

swap(&arr[low],&arr[j]);

return j;

}

void quickSort(int arr[],int low,int high)

{

if(low<high)

{

int pi=partition(arr,low,high);

quickSort(arr,low,pi-1);

quickSort(arr,pi+1,high);

}

}

int main()

{

int num;

printf("Enter the number of elements: ");

scanf("%d",&num);

int arr[num];

printf("\nEnter the elements: ");

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

{

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

}

quickSort(arr,0,num-1);

printf("\nSorted Array: ");

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

{

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

}

return 0;

}

Output:

