#Aim : Write Python program to sort n names using Quick sort algorithm. Discuss the complexity of algorithm used.

def QuickSort(alist,start,end):

if start<end:

loc=partition(alist,start,end)

QuickSort(alist,start,loc)

QuickSort(alist,loc+1,end)

def partition (alist,start,end):

pivot=alist[start]

left=start+1

loc=end

flag=0

while flag!=1:

while left<=loc and alist[left]<=pivot:

left=left+1

while alist[loc]>=pivot and loc>=left:

loc=loc-1

if loc<left:

flag=1

else:

temp=alist[left]

alist[left]=alist[loc]

alist[loc]=temp

temp=alist[start]

alist[start]=alist[loc]

alist[loc]=temp

return loc

alist=[]

n=int(input("Enter number of elements:"))

while(n>0):

x=int(input("Enter elements:"))

alist.append(x)

n=n-1

print("Original list:",alist)

QuickSort(alist,0,len(alist)-1)

print("Sorted list:",alist)