README

In this program you have give the input and it accept only integers with base case 10 and it is not accepted string and special characters . and name of file is assignment02.py.

In this program firstly i take the standard input from user and than add this input in list and than sort that list into non decreasing order use loops

Error in this program every time i have to tell this is integer because otherwise program treat this as a string

question 2

		time
import sys	c1	1
dat = []	c2	1
f = int(input())	c3	1
while f != '':	c4	n
dat.append(f)	c5	n-1
f = input()	c6	n-1
for i in range(0, len(dat) - 1):	c7	n
pos = i	c8	n-1
for j in range(i+1, len(dat)):	c9	$\sum^{n}_{j=1} tj$
if int(dat[j]) < int(dat[pos]):	c10	$\sum^{n}_{j=1} tj-1$
pos = j	c11	$\sum^{n}_{j=1} tj-1$
dat[pos], dat[i] = dat[i], dat[pos]	c12	n-1
print(dat)	c13	1

$t(n) = c1(1)+c2(1)+c3(1)+c4(n)+c5(n-1)+c6(n-1)+c7n$
$+c8(n-1)+c9\sum^{n}_{j=1} tj +c10 \sum^{n}_{j=1} tj-1 +c11\sum^{n}_{j=1} tj-1$
$+c12(n-1)+c13(1)$

best case

$t(n) = c1(1)+c2(1)+c3(1)+c4(n)+c5(n-1)+c6(n-1)+c7n$
$+c8(n-1)+c9\sum^{n}_{j=1} tj +c10 \sum^{n}_{j=1} tj-1 +c11\sum^{n}_{j=1} tj-1$
$+c12(n-1)+c13(1)$

$=c1(1)+c2(1)+c3(1)+c4(n)+c5(n-1)+c6(n-1)+c7n+c8(n-1)+$
$c9(n(n+1)/2) +c12(n-1)+c13(1)$

$=cn^2+cn+b$
Best case $=0(n^2)$
and best case is 0(1)

worst case

$t(n) = c1(1)+c2(1)+c3(1)+c4(n)+c5(n-1)+c6(n-1)+c7n$
$+c8(n-1)+c9\sum^{n}_{j=1} tj +c10 \sum^{n}_{j=1} tj-1 +c11\sum^{n}_{j=1} tj-1$
$+c12(n-1)+c13(1)$

worst case is $0(n^2)$

average case

$t(n) = c1(1)+c2(1)+c3(1)+c4(n)+c5(n-1)+c6(n-1)+c7n$
$+c8(n-1)+c9\sum^{n}_{j=1} tj +c10 \sum^{n}_{j=1} tj-1 +c11\sum^{n}_{j=1} tj-1$
$+c12(n-1)+c13(1)$

average case is $0(n^2)$