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AAD Practical 2

Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub: Algorithm Analysis and Design

Practical 2

Let us suppose that you are having an array containing both positive and negative numbers. Given the numbers you are supposed to find 2 such elements such that the sum of those numbers is closest to zero.

Sample Input 1
15, 5, -20, 30, -45

Sample Output 1
15, -20

Explanation 1 : In all the comparison, the sum of 15 and -20 is smallest amount among all other comparison.

Code :

```
from YSL_io import *


def closetozero(y):
if len(y) > 2:
sum = y[0] + y[1]
ans = [y[0], y[1]]
alt = []
```

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```
for i in range(len(y)):
for j in range(i + 1, len(y)):
curr = y[i] + y[j]
if abs(curr) ⩽ abs(sum):
if abs(curr) < abs(sum):
sum = curr
ans = [y[i], y[j]]
else:
sum = curr
alt.append([y[i], y[j]])
return ans, alt

y = [25, 15, 5, -20, 30, -45, 50, -55]
ans, alt = closetozero(y)
alt.pop(0)

if len(alt) == 0 :
print('\nThe required numbers whose sum is closest to zero are : ',
end='')
printGRN(f'{ans[0]} and {ans[1]}')
else :
print('\nThe required numbers whose sum is closest to zero are : ',
end='')
printGRN(f'{ans[0]} and {ans[1]}', end=', ')
```

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```
for elem in alt:

if elem == alt[-1]:

printGRN(f'{elem[0]} and {elem[1]}')

else :

printGRN(f'{elem[0]} and {elem[1]}', end=', ')
```

Output :