165) Given four lists A, B, C, D of integer values,Write a program to compute how many tuples n(i, j, k, l) there are such that A[i] + B[j] + C[k] + D[l] is zero.

(i) **Input**: A = [1, 2], B = [-2, -1], C = [-1, 2], D = [0, 2]
Output: 2

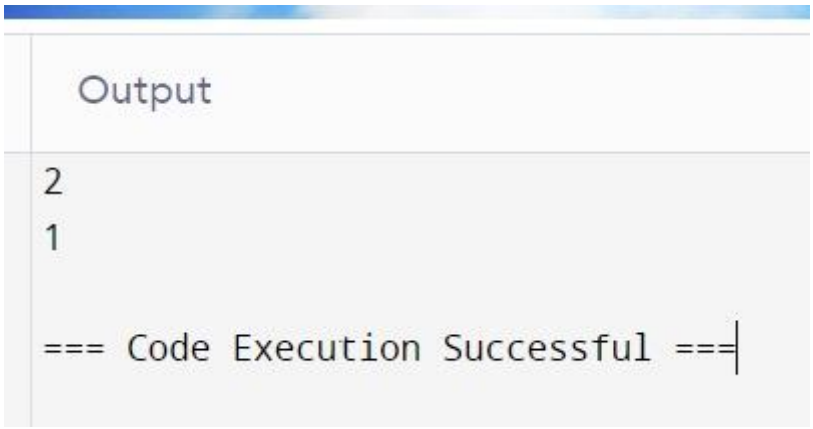
(ii) **Input**: A = [0], B = [0], C = [0], D = [0]
Output: 1

AIM: Given four lists A, B, C, D of integer values

PROGRAM:

```
from collections import defaultdict

def four_sum_count(A, B, C, D):
    countAB = defaultdict(int)
    for a in A:
        for b in B:
            countAB[a + b] += 1

    count = 0
    for c in C:
        for d in D:
            count += countAB[-(c + d)]

    return count

print(four_sum_count([1, 2], [-2, -1], [-1, 2], [0, 2]))  # Output: 2
print(four_sum_count([0], [0], [0], [0]))
```

OUTPUT:



TIME COMPLEXITY: O(N^2)