

Sum of diagonals

Given a 2-D square matrix, find sum of elements in Principal and Secondary diagonals. For example, consider the following 4 X 4 input matrix.

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A00 A01 A02 A03
A10 A11 A12 A13
A20 A21 A22 A23
A30 A31 A32 A33
```

The primary diagonal is formed by the elements A_{00} , A_{11} , A_{22} , A_{33} . And the secondary diagonal is formed by the elements A_{03} , A_{12} , A_{21} , A_{30} .

Input:

The first line consists of an integer **T** i.e number of test cases. The first line of each test case consists of an integer **N**. The next line consists of **N*N** spaced integers.

Output:

Print the sum of primary diagonal elements and the secondary diagonal elements with a space in between.

Constraints:

$1 \leq T \leq 100$

$1 \leq N, a[i][j] \leq 1000$

Example:

Input:

2

4

1 2 3 4 4 3 2 1 7 8 9 6 6 5 4 3

3

1 1 1 1 1 1 1 1 1

Output:

16 20

3 3