Problem C
Breaking a Magnetic Plate
Max no. of test cases: 6
Time limit: 1 second

A scientist created a magnetic plate. He divided the plate into four squares and measured the magnetic field at the center of the squares. Fig. 1 shows an example of such a plate and its square magnetic values. When he wanted to measure the total magnetic field for the plate in Fig.1, he got 12. After days in research, he found the formula to compute the total magnetic field value. The secret is that squares can interact with each other. For example, square (0,0) (value 3) has neighbors (0,1) (value 2) and (1,0) (value 1). So, the "enhanced" magnetic value of square (0,0) is $3 * 2 + 3 * 1 = 9$, that is, by multiplying its magnetic value with its neighbor's value and then summing up all the neighbors. Diagonal connected squares, such as (0,0) and (1,1) are not neighbors.

By computing the enhanced values of every square and then adding all the values, you can get the total magnetic value of the plate. For example, the "enhanced" value of square (0,0) is 9, (0,1) is 4, (1,0) is 2, and (1,1) is -3, so the total magnetic value of the plate is 12.

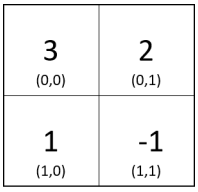

Figure 1: A magnetic plate

The scientist later found that by breaking the plate, sometimes, you can get a sub component to emit higher magnetic fields. For example, in Fig. 2, the piece composed by (0,0),(0,1),(1,0) can emit magnetic field value to 18 and (1,1) has value -1. The total magnetic field value is 17.

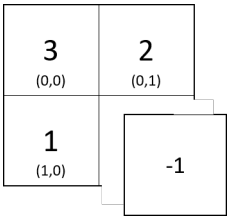

Figure 2: Break a magnetic plate

Given a plate, please find a way to break the plate so that the total magnetic field value is maximum.

Input File Format

There are more than one test cases in the input file. The first number N is the number of test cases. Each test case contains 4 integers separated by spaces. The 4 integers (0 is a feasible value) are the magnetic values of (0,0), (0,1), (1,0), and (1,1) respectively.

Output Format

For each test case, please print its maximum total magnetic value.

Sample Input

```
4
3 2 1 -1
1 1 1 1
3 2 -1 -1
3 2 -6 0
```

Output for the Sample Input

```
17
8
14
12
```