

A simple equation

Given N, A, B, C , find how many solutions exist to the equation : $a + b + c \leq N$, such that $0 \leq a \leq A, 0 \leq b \leq B, 0 \leq c \leq C$.

Input :

The first line contains the number of test cases T . Each test case contains 4 integers, N, A, B, C . $0 \leq N, A, B, C \leq 2500$

Output :

Output T lines, one for each test case.

Example

Sample Input :

```
2
4 3 2 1
1 1 1 1
```

Sample Output :

```
20
4
```