Peaceful Results

Input file:	standard input
Output file:	standard output
Time limit:	2 seconds
Memory limit:	1024 megabytes

Alice, Bob, and Chris will play rock-paper-scissors N times. However, each of them has the following restrictions on what hand they can play:

- Alice must play rock exactly A_R times, paper exactly A_P times, and scissors exactly A_S times.

- Bob must play rock exactly B_R times, paper exactly B_P times, and scissors exactly B_S times.

- Chris must play rock exactly C_R times, paper exactly C_P times, and scissors exactly C_S times.

Alice, Bob, and Chris are very good friends, so they want to make sure that they tie every single game over the N rounds. Count the number of ways to choose the hands of the three players for the N rounds that achieves this, modulo 998244353.

Input

The input is given from Standard Input in the following format:

```
N
A_R A_P A_S
B_R B_P B_S
C_R C_P C_S
```

- All values in the input are integers.

- $1 \le N \le 1.5 \times 10^6$

- $0 \le A_R, A_P, A_S, B_R, B_P, B_S, C_R, C_P, C_S \le 1.5 \times 10^6$

- $A_R + A_P + A_S = B_R + B_P + B_S = C_R + C_P + C_S = N$

Output

Output the answer.

Examples

standard input	standard output
2 2 0 0 1 1 0 1 0 1	2
3 0 1 2 3 0 0 1 1 1	0
333333 111111 111111 111111 111111 111111 111111 111111 111111 111111	383902959