# Polynacci

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|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 256 megabytes |

You may recall the Tribonacci numbers which you saw in Round 1. In that sequence you started with three initial terms and each term thereafter is the sum of the previous three terms.

We now further generalise this concept and consider a sequence of numbers which we call a **Polynacci** sequence. A Polynacci sequence begins with $M$ given initial terms. The next term of the sequence is then generated by adding the previous $M$ terms.

For example, if $M = 3$ and we start with terms $1, 2, 3$, we obtain the sequence:

$$1, 2, 3, 6, 11, 20, 37, 68, 125, 230, 423, 778, \ldots$$

If we have $M = 5$ and we start with the terms 1, 1, 2, 2, 3, then we obtain the sequence:

$$1, 1, 2, 2, 3, 9, 17, 33, 64, 126, 249, \ldots$$

Create a program that will determine the $N$-th term of a Polynacci sequence given the first $M$ terms.

## Input

The first line of input consists of a sequence of $M$ space-seperated integers, denoting the first $M$ terms of the Polynacci sequence. Note that the value $M$ is not explicitly provided; the number of initial terms must be calculated from the given input.

The second line of input consists of a single integer $N$.

## Output

Output a single integer, giving the $N$-th term of the Polynacci sequence.

## Examples

| standard input | standard output |
|---|---|
| 2 3 4<br>10 | 335 |
| 1 2 3 4 5<br>10 | 214 |