Tribonacci

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

The Fibonacci sequence is a well-known sequence of integers defined by the following rule. The first number (term) is 0, the second number (term) is 1, and each number (term) after that is defined by adding the two previous terms in the sequence together. The Fibonacci sequence therefore goes as follows:

$$0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, \ldots$$

We are interested in a generalisation of the Fibonacci sequence called the **Tribonnaci** sequence. This sequence is generated by starting with 3 given integers and then each successive number is formed by adding the previous 3 terms together. For example, if we start with the integers 1, 2 and 3, the Tribonacci sequence will be as follows:

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

Create a program that will produce the N-th term of a Tribonacci sequence, given the three starting integers.

Input

The first line of input contains three space-seperated integers giving the first three terms of the Tribonacci sequence.

The second line of input contains a single integer N.

Output

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

Example

standard input	standard output
1 1 1 5	5