# Problem 2 – Tribonacci

The Tribonacci sequence is a sequence in which every next element is made by the sum of the previous three elements from the sequence.



Write a computer program that finds the **N**th element of the Tribonacci sequence, if you are given the first three elements of the sequence and the number **N**. Mathematically said: with given T1, T2 and T3 – you must find Tn.

## Input

* The input data should be read from the console.
* The values of the first three Tribonacci elements will be given on the first three input lines.
* The number **N** will be on the fourth line. This is the number of the consecutive element of the sequence that must be found by your program.
* The input data will always be valid and in the format described. There is no need to check it explicitly.

## Output

* The output data should be printed on the console.
* At the only output line you must print the **N**th element of the given Tribonacci sequence.

## Constraints

* The values of the first three elements of the sequence will be integers between -2 000 000 000 and 2 000 000 000.
* The number **N** will be a positive integer between 1 and 15 000, inclusive.
* Time limit: 0.25 seconds.
* Allowed memory: 16 MB.

## Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 1  1  1  4 | 3 | 2  3  4  10 | 335 | 5  -1  2  33 | 208691269 |

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