Reflections (Easy)

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

You have a square $ABCD$, with all of its sides being perfectly reflective. Some vertices might have holes in them, and the other vertices completely absorb light if it falls on them (i.e., there is no reflection at the vertices). The vertex A always has a hole in it. A ray of light is sent into the square $ABCD$ through A.

You want to find the number of distinct ways you can send the ray into the square through the vertex A such that the ray undergoes k reflections and exits the square through a hole.

This is the easier version of the problem (with only one query).

Input

The first line will contain $q = 1$, the number of queries. The next line will contain 4 space-separated integers - k, s_B, s_C, s_D.

$s_I = 1$ denotes that there is a hole at the vertex I and $s_I = 0$ denotes that there is no hole at the vertex I.

It is additionally given that $0 \leq k \leq 10^5$, and $s_B, s_C, s_D \in \{0, 1\}$ for any query.

Output

Print the answer to the only query as a single integer.

Example

standard input	standard output
1 1 1 1 1	2

Note

Grazing incidence need not be considered.