

The teacher has sent an e-mail to her students with the following task:

"Write a programme that will determine and output the value of X if given the statement:

$$X = number_1^{pot_1} + number_2^{pot_2} + \dots + number_N^{pot_N}$$

and it holds that $number_1, number_2$ to $number_N$ are integers, and pot_1, pot_2 to pot_N one-digit integers." Unfortunately, when the teacher downloaded the task to her computer, the text formatting was lost so the task transformed into a sum of N integers:

$$X = P_1 + P_2 + \dots + P_N$$

For example, without text formatting, the original task in the form of $X = 21^2 + 125^3$ became a task in the form of $X = 212 + 1253$. Help the teacher by writing a programme that will, for given N integers from P_1 to P_N determine and output the value of X from the original task.

Please note: We know that it holds $a^N = a \cdot a \cdot \dots \cdot a$ (N times).

INPUT

The first line of input contains the integer N ($1 \leq N \leq 10$), the number of the addends from the task. Each of the following N lines contains the integer P_i ($10 \leq P_i \leq 9999, i = 1 \dots N$) from the task.

OUTPUT

The first and only line of output must contain the value of X ($X \leq 1\,000\,000\,000$) from the original task.

SAMPLE TESTS

input 2 212 1253	input 5 23 17 43 52 22	input 3 213 102 45
output 1953566	output 102	output 10385

Clarification of the first example: $21^2 + 125^3 = 441 + 1953125 = 1953566$.