

Pot

The teacher has sent an e-mail to her students with the following task: "Write a program that will determine and output the value of X if given the statement:

$$X = number_1^{pow_1} + number_2^{pow_2} + \dots + number_N^{pow_N}$$

and it holds that $number_1, number_2$ to $number_N$ are integers, and pow_1, pow_2 to pow_N are 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 program that will, for given N integers from P_1 to P_N determine and output the value of X from the original task.

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 Input 1

```
2
212
1253
```



Sample Output 1

```
1953566
```



Sample Input 2

```
5
23
17
43
52
22
```



Sample Output 2

```
102
```



Sample Input 3

```
3
213
102
45
```



Sample Output 3

```
10385
```



```
import sys #imported the sys library to exit the program when need be
n = int(input())
if n < 1 or n >10: #included my constraints
    sys.exit()
addlist = [] #created a list
while n != 0:
    p = int(input())
    if p < 10 or p > 9999: #included my constraints
        sys.exit()
    s = p%10 #took the modulo of p that will give me the last digit of the int and assigned a variable
    p=str(p) #made the int input into a string in order to take the last digit off
    p=p[:-1] #Took of the last digit from the string
    p=int(p) #Made the string into an integer again
    p=p**s #Squared the int p
    addlist.append(p) # Appended it to a list
    n -= 1
r = sum(addlist) #Added all of the content on the list
print(r)
```