

A. Playing With Numbers

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Ahmed has a problem in his first year of primary school. He can not write numbers.

So his teacher suggested that he write the numbers several times, under one condition: if the teacher says "7", then Ahmed will write this number 7 times.

Write a program that will help Ahmed in doing his task.

Input

The input consists of a single line containing one integer X ($1 \leq X \leq 10$).

Output

Print the number X , repeated X times. The numbers should be separated by one space.

Sample test(s)

Input

7

Output

7 7 7 7 7 7 7

Input

6

Output

6 6 6 6 6 6

C. Digits Summation

time limit per test

1 second

memory limit per test

64 megabytes

input
standard input
output
standard output

Som3a and Omar challenged each other to a game. The game is, given a non-negative number X , they have to calculate the sum of the digits of X . The winner is the person who will say the sum first. Som3a wants to beat Omar, so he needs your help.

Input

The input consists of a number X ($X \leq 2^{63}$).

Output

Your program should print the summation of the digits of the number X .

Sample test(s)

Input

3

Output

3

Input

121

Output

4

D. Not a Mysterious Machine

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Dr. Codenstein is at it again! Once again, Dr.Codenstein has invented a brilliant machine, but this time, he knows exactly what it does.

Dr.Codenstein is a big fan of Fibonacci, and he is obsessed with Fibonacci's sequence. Fibonacci's sequence is a sequence that defines its X th term as $F(X) = F(X-1) + F(X-2)$.

Given X , can you calculate the X th term?

Input

The input consists of a single integer X ($1 \leq X \leq 90$).

Output

Your program should output the X th term in the Fibonacci sequence.

Sample test(s)

Input

1

Output

1

Input

4

Output

3

Input

10

Output

55

Note

Note that $F(1) = F(2) = 1$.

H. Palindromic Numbers

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Gamil is writing a letter to his Indian pen-pal, but he isn't sure if Indians read numbers from left to right or from right to left. Gamil wants to make sure that any number he writes is read the same from both sides, to avoid any misunderstanding. You have a list with all the numbers Gamil will write in his letter. Can you tell Gamil how many of the numbers he will write may cause a misunderstanding?

Input

The input consists of two lines, the first line consists of one integer N ($1 \leq N \leq 100$), which is the number of numbers you have on the list. The second line contains N numbers, separated by spaces, which are the numbers Gamil will write in his letter ($0 \leq A_i \leq 10^{12}$).

Output

Print one integer, which is how many numbers Gamil will write that may cause a misunderstanding.

Sample test(s)

Input

3

121 1 35

Output

1

I. Calculator Again!

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Koko has attended the second session in acmASCIS level 1, and now he wants to make a more advanced calculator. His new calculator will do the same operations as the old one (addition, subtraction, multiplication and division of two integers), but it can also make multiple operations at a time, and it makes them in order.

Input

The input consists of a sequence of operations. Each operation consists of an integer X then symbol ('+' or '-' or '*' or '/', without the single quotes), then another integer Y ($0 < |X|, |Y| < 10^4$). The character '.' ends the sequence.

Output

For each operation in the sequence of operations, print the result of the calculation that was made by Koko's new calculator.

Sample test(s)

Input

3+5*2.

Output

16

Input

12-2/2.

Output

5

Note

- The sequence will contain at least one operation.
- For every operation except the first one, X represents the result of the previous operations.

- The division in this calculator is an integer division.
- The maximum number of operations in the sequence is 11.
- Make sure that the final result will be less than 2^{64} .

J. Jolly's Fibonacci

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Jolly's math teacher gave her a task to calculate the Nth Fibonacci number. Can you help her?

Input

There are multiple test cases. The first line of input contains a single integer T denoting the number of test cases ($1 \leq T \leq 1000$). For each test case, there is a single line containing 3 integers (A, B, N), separated by a single space.

"A" represents the first number in the Fibonacci sequence (F_0) ($2 \leq A < 100$). "B" represents the second number in the Fibonacci sequence (F_1) ($2 \leq B < 100$). "N" represents the index of required Fibonacci number (F_i : $N=i$) ($2 \leq N < 50$).

Output

For each test case, calculate and print the Nth Fibonacci number.

Sample test(s)

Input

3
4 7 10
3 4 5
2 9 20

Output

521
29
69247

Note

The Fibonacci sequence is (0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...), which is defined by the recurrence:

$$F_0 = 0$$

$$F_1 = 1$$

$$F_i = F_{i-1} + F_{i-2} \text{ for } i > 1$$

F. SoundCloud

time limit per test

1 second

memory limit per test

64 megabytes

input

standard input

output

standard output

Kamal listens to music on SoundCloud alot, everywhere and at any time.

This annoys his friends. They say that he spends all his time listening to music and he quit doing anything else useful.

Kamal is bored from their advice to stop listening to music and decided to challenge them. If Kamal's friends win the challenge, Kamal will stop listening to music forever.

Kamal will start listening to his favorite playlist - which includes 20 songs, starting from song #1, but he made a mistake and told his friends that he will listen to N songs from the playlist (repetitions included).

Kamal's friends want to know the number of the last song Kamal listened to, after N Songs.

Help Kamal's friends win the challenge.

Input

The input consist of N, the number of songs Kamal will listen to ($1 \leq N \leq 1000$). Then N characters follow:

- '*' means Kamal is listening to the current song.
- '>' means Kamal skipped the current song and will listen to the next song.
- '<' means Kamal repeated the last song.

The first character of the N number of characters will be either '*' or '>'.

Output

Print the number (in the playlist) of the last song Kamal has listened to after N songs.

Sample test(s)

Input

7

Output

7

Input

6

>>*>

Output

9

Note

- Kamal may play the playlist many times.

