Looking throw the "Online Judge's Problem Set Archive" I found a very interesting problem number 498, titled "Polly the Polynomial". Frankly speaking, I did not solve it, but I derived from it this problem.

Everything in this problem is a derivative of something from 498. In particular, 498 was "*... designed to help you remember ... basic algebra skills, make the world a better place, etc., etc.*". This problem is designed to help you remember basic derivation algebra skills, increase the speed in which world becomes a better place, etc., etc.

In 498 you had to evaluate the values of polynomial

$$a_0x^n + a_1x^{n-1} + \ldots + a_{n-1}x + a_n.$$

In this problem you should evaluate its derivative. Remember that derivative is defined as

$$a_0nx^{n-1} + a_1(n-1)x^{n-2} + \ldots + a_{n-1}.$$

All the input and output data will fit into integer, i.e. its absolute value will be less than 2^{31}.

Input

Your program should accept an even number of lines of text. Each pair of lines will represent one problem. The first line will contain one integer - a value for x. The second line will contain a list of integers a_0, a_1, ..., a_{n-1}, a_n, which represent a set of polynomial coefficients.

Input is terminated by ¡EOF¿.

Output

For each pair of lines, your program should evaluate the derivative of polynomial for the given value x and output it in a single line.

Sample Input

```
7
1 -1
2
1 1 1
```

Sample Output

```
1
5
```