Algebra! Remember algebra? There is a theory that as engineers progresses further and further in their studies, they lose basic math skills. This problem is designed to help you remember those *basic* algebra skills, make the world a better place, etc., etc.

## 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 a list of integers $\{c_0, c_1, \ldots, c_n\}$ which represent a set of coefficients to a polynomial expression. The order of the polynomial is $n$. The coefficients should be paired with the terms of the polynomial in the following manner:

$$c_0 x^n + c_1 x^{n-1} + \cdots + c_n x^0$$

The second line of text represents a sequence of values for $x$, $\{x_0, x_1, \ldots, x_m\}$.

## Output

For each pair of lines, your program should evaluate the polynomial for all the values of $x$ ($x_0$ through $x_m$) and output the resulting values on a single line.

## Sample Input

```
-2
5 0 1 6
1 -1
7 6 -1
```

## Sample Output

```
-2 -2 -2 -2
6 5 -2
```