



Everything but me
Xpoints

Introduction

Given a series of integer values write a program that calculates the sum and the product of all the input numbers except the one corresponding to the considered position. That is, consider everything else for the sum and product calculation.

Input

Several lines containing an integer value until the character '#' marks the end of the input.

Output

The first line contains per each read integer position the sum of all the input values except itself.

The second line contains per each read integer position the product of all the input values except itself.

Example 1

Input

```
5
6
7
-8
11
#
```



HINT:

$$16 = 6 + 7 + (-8) + 11$$

$$-3696 = 6 \cdot 7 \cdot (-8) \cdot 11$$

Output

```
16 15 14 29 10
-3696 -3080 -2640 2310 -1680
```

