

## 2 Counting Houses on Halloween

You and your friend have decided to go trick-or-treating this year in a secret neighborhood that is rumored to give out full-size candy bars. Determined to get some good candy, you arrive at the neighborhood only to realize that the board out front listing the house numbers has lost some of its lettering.

The houses on each street in this neighborhood are numbered according to a specific sequence. You and your friend will have to determine the missing numbers in the sequence of house numbers to make sure that you hit every house in the neighborhood.

### 2.1 Input

The first line will have an integer representing the number of values in the sequence. The next line will have the sequence which will either be increasing or decreasing by a value  $X$ . There will be missing values that you must determine.

The final sequence is calculated by taking each value of the sequence and raising it to the power of  $X$ .

NOTE: The first two and last two values of the sequence will always be given.

### 2.2 Output

The complete sequence printed out with each value separated by a space, and raised to the power of  $X$

### 2.3 Sample Input/Output

Sample Input 1	Sample Output 1
4 2 4 8 10	4 16 36 64 100
Sample Input 2	Sample Output 2
4 15 12 6 3	3375 1728 729 216 27