**14A. Polynomials**

# Program Name: Polynomials.java Input File: polynomials.dat

You’ve been transported back in time to your algebra class that you didn’t pay attention in. Because algebra is boring, you decide to automate all your assignments. Given a polynomial, identify its coefficients.

For example, given the following polynomial:

x5+3x4-5x3+10x2+20x-48

The coefficients of a polynomial are given as 1 3 -5 10 20 -48. The coefficients are considered in importance by the degree they are attached to, so higher degree coefficients come first.

**Input**

The first line of input will contain a single integer n that indicates the number of test cases. The next n lines will each contain a single algebraic expression. Exponents will be denoted in the format x^n. If an item has no coefficient, its coefficient is 1. If an item with degree less than the highest degree is missing, its coefficient is 0.

**Output**

For each polynomial, print out each of the coefficients in order by degree. Separate each coefficient by a space, and separate each test case by a newline.

**Example Input File**

3

x^5+3x^4-5x^3+10x^2+20x-48

x-2x^2+3

22x^3+1x^2+x^5-2

**Example Output to Screen**

1 3 -5 10 20 -48

-2 1 3

1 0 22 1 0 -2