DWITE Online Computer Programming Contest
November 2006

Problem 3

Linear Binomial Products

Given a pair of linear binomials ax + b and cx + d, calculate its product.

The input file (**DATA31.txt** for the first submission and **DATA32.txt** for the second submission) will contain five lines of data. Each line will contain the integer values a, b, c and d separated by a space. -100 <= a, b, c, d <= 100

The output file (**OUT31.txt** for the first submission and **OUT32.txt** for the second submission) will contain five lines of data, corresponding to each line of the input file. Each line will then display the mathematical statement showing the original linear binomials and their product. Do not display coefficients of 1,-1 or 0. See sample output below. There are no spaces found in a line of output.

Sample Input	**Sample Output**
1 2 3 4 0 -2 -6 9 2 2 2 -2 5 1 -2 1 1 -3 1 2	(x+2)(3x+4)=3x^2+10x+8 (-2)(-6x+9)=12x-18 (2x+2)(2x-2)=4x^2-4 (5x+1)(-2x+1)=-10x^2+3x+1 (x-3)(x+2)=x^2-x-6