Problem 5

Does This Equate?

6 Points

Program Name: equate.cpp Input File: equate.dat

Introduction

You are an algebra tutor. One of your most tedious duties is checking your students' solutions to basic algebraic equations (you're a lazy tutor), so you will write a program that takes in a basic algebraic equation and gives back the solution (solves for the variable 'x'). This should make your job easy!

Your program should be able to solve any basic algebraic equation involving one variable, where a basic algebraic equation is defined as the following:

x = <*expression*> Where <*expression*> is an arithmetic expression involving one or more arithmetic operations including addition, subtraction, and/or multiplication. Note that all arithmetic operations operate on integers, all operations will appear consecutively with spaces between them, each operand and operator will be separated by a space as well, each <*expression*> will consist of at most 10 arithmetic operations, and that the normal rules of operator precedence apply.

Notes: All operands of a basic algebraic equation will be a postive integer within the inclusive range of [0, 10000]. All intermediate and final results will be in the inclusive range of [-10000, 10000].

Input

Input to this problem will consist of a (non-empty) series of up to 100 data sets. Each data set will be formatted according to the following description, and there will be **no blank lines** separating data sets.

A single data set has 1 component, consisting of the actual basic algebraic equation as specified above.

Output

For each data set, there will be exactly one line of output. The output shall be formatted as follows:

"x = <result>" (where 'result' is the solution to the basic algebraic equation, the value of 'x')

Example: Input File

```
x = 100
x = 200 + 4 - 8
x = 5 * 10 - 2 + 10 * 3
x = 5 - 10
```

Output to screen

```
x = 100
x = 196
x = 78
x = -5
```