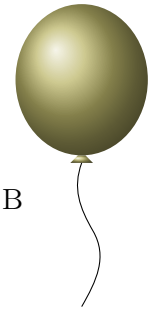
J Porco Rigido



Time limit: 1.0s
Memory limit: 1024MB

Porco rigido is a classic pork dish from Pisa, usually served with vegetables.

You prepared Porco rigido for dinner. Now you want to serve everyone, and naturally, each person wants a lot of Porco rigido (you make it very well). Specifically, person i wants the exact quantity a_i of the Porco. Because of this, you decided to tell your kitchen robot to help you serve. There will be 26 guests, denoted for brevity with lowercase English letters: `a`, `b`, `c`, ..., `z`. The robot works in a special way:

- First, the robot puts some quantity x in one bowl. This is identified with the instruction "a=x" where a is one of the 26 identifiers and x is a constant integer (for example, "`a=8`", "`b=0`", "`z=2147483647`").

- Then the robot can do the following at most 329 times: measure the quantity of Porco in one bowl and add that quantity to another bowl (or to the same bowl). This is identified with the instruction "a+=b" where a and b are identifiers (for example, "`a+=a`", "`b+=z`", "`x+=y`").

Even though your recipe is amazing, you now need to program the robot to put the right quantity of Porco rigido in each bowl. Note that you are not required to minimize the number of operations.

Input

The first line of input will contain 26 integers separated by spaces: the quantities a_i the robot should place in each bowl ($0 \leq a_i \leq 2^{31} - 1$). The sum of a_i is strictly positive.

Output

On the first line, print the number of instructions k for the robot. Note k should be at most 330 according to the statement.

On each of the following k lines, print one instruction in the format "a=x" (first instruction), where a is a lowercase English letter and x is a constant, or "a+=b" (other instructions), where both a and b are lowercase English letters.

Samples

Sample input 1
1 2 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1

Sample output 1
7 a=1 b+=a b+=a c+=a c+=a c+=a z+=a