

2862 Series Determination

Boudreaux and Thibodeaux aren't very good at math, so they need you to write a program that can determine the second degree polynomial used to generate a given sequence of three integers. As proof that you've figured out the polynomial, they want your program to print out the next 3 integers in the sequence.

You know that each sequence is generated by a polynomial of the form $f(x) = Ax^2 + Bx + C$, where A , B , and C are integers in the range $(-10^3 \leq A, B, C \leq 10^3)$. You are given the values $f(0)$, $f(1)$, $f(2)$ and are to determine the values $f(3)$, $f(4)$, $f(5)$.

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.

Each data set consists of a single line containing the space-separated integer values of the polynomial evaluated at 0, 1, and 2 (in that order). These values will be in the range $(-10^3 \leq f(0), f(1), f(2) \leq 10^3)$.

Output

For each data set, there will be exactly one line of output containing the space-separated integer values of the polynomial evaluated at 3, 4, and 5 (in that order). These values will be in the range $(-10^4 \leq f(3), f(4), f(5) \leq 10^4)$.

Sample Input

```
0 0 0
1 1 1
1 2 3
0 1 4
0 2 8
```

Sample Output

```
0 0 0
1 1 1
4 5 6
9 16 25
18 32 50
```