

Given a positive integer N you will have to find two positive integers x and y such that:

$$N = x^3 - y^3$$

Input

The input file contains at most 100 lines of inputs. Each line contains a positive integer N ($0 < N \leq 10000$). Input is terminated by a line containing a single zero. This line should not be processed.

Output

For each line of input produce one or more lines of output. Each of these lines contains two positive integers x, y separated by a single space, such that $N = x^3 - y^3$. If there is no such integer values of x and y then produce the line 'No solution' instead. If there is more than one solution then output the one with smallest value of y .

Sample Input

```
7
37
12
0
```

Sample Output

```
2 1
4 3
No solution
```