

Nazif, Osman, and Squares

Time Limit: 1.0s **Memory Limit:** 256M

Nazif and Osman are studying for the extremely hard mathematics finals. They practice writing numbers in a difference of two squares format.

Nazif will give Osman N lines, one positive integer X in each line. Osman must print 2 positive integers a, b if X can be written in the form $a^2 - b^2$ and print -1 otherwise. Note that the order of printing a and b does not matter. Can you help Osman find the numbers?

Input:

The first line will contain N . Following N lines will each contain one single integer X .

$$1 \leq N \leq 10^4$$

$$2 \leq X \leq 10^6$$

Output:

In exactly N lines, if X_i can be written in the form $a^2 - b^2$, you should print two space-separated positive integers a and b . Otherwise, you should print -1. If there is more than one possible answer, you can print any of them.

Examples:

Input 1:

```
2
6
12
```

Output 1:

```
-1
4 2
```

Input 2:

3
31
47
56

Output 2:

16 15
24 23
15 13