

6082 Groovy numbers

An integer is called a *perfect square* if it is the square of an integer. From this, we can define a *square-free* integer as an integer that is not divisible by a *perfect square* greater than 1.

In an attempt to weed out all the uncool numbers, you are to write a program that classifies integers as either square-free or not square-free.

Input

Your input consists of an arbitrary number of integers (but no more than 2000 of them), each on its own line. These integers are in the range $[2, 2^{21}]$.

The end of input is indicated by a line containing only the value '-1'.

Output

For each input value x , print out the line

x is square-free

or

x is not square-free

Sample Input

```
991
2097151
-1
```

Sample Output

```
991 is square-free
2097151 is not square-free
```