The Problem

You are to determinate X by given Y, from expression $\times = \sqrt{\nearrow}$

The Input

The first line is the number of test cases, followed by a blank line.

Each test case of the input contains a positive integer Y ($1 \le Y \le 10^{1000}$), with no blanks or leading zeroes in it.

It is guaranteed, that for given Y, X will be always an integer.

Each test case will be separated by a single line.

The Output

For each test case, your program should print X in the same format as Y was given in input.

Print a blank line between the outputs for two consecutive test cases.

Sample Input

1

7206604678144

Sample Output

2684512