Problem 3: Big Roots

Given an integer n, $1 \le n \le 200$, and an integer p, $1 \le p \le 10^{101}$, you are to write a program that determines the positive integer value k such that $k = \sqrt[n]{p}$, if such a value exists. If such a positive integer k does not exist, your program must report that fact.

Input

There will be multiple input cases to consider. For each case there will be two input lines. The first line will contain the value of n, and the second line will contain the value of p. The line following the input for the last case will contain a single integer 0.

Output

For each input case, display the case number (1, 2, …) and the value of k or the phrase "No solution", as appropriate. Display a blank line after the output for each case. The sample input and output illustrate the appropriate formats.

Sample Input	Output for the Sample Input
2 16 3 27 7 4357186184021382204544 7 4357186184021382204545 0	Case 1: 4 Case 2: 3 Case 3: 1234 Case 4: No solution