Problem L. Lengths and Periods

Time limit: 2 seconds
Memory limit: 512 megabytes

In mathematics and computer science, the critical exponent of a string describes the largest number of times its contiguous substring is repeated in a row. The trick is that it can be a fraction. For example, the critical exponent of "Mississippi" is 7/3, as it contains the substring "ississi", which is of length 7 and period 3.

The formal definition is as follows. Let w and x be non-empty strings. x is said to occur in w with exponent α, for positive rational α, if there is a substring y in w such as $y = x^n x_0$ where x^n is x repeated n times, x_0 is a prefix of x, n is the integer part of α, and the length $|y|$ is equal to $\alpha|x|$. The critical exponent of w is the maximum α over all x^α that occur in w.

Given a string w, find its critical exponent.

Input

The only line contains a string w — a sequence of lowercase English letters ($1 \le |w| \le 200\,000$).

Output

Output the critical exponent of w as an irreducible fraction p/q where p and q are integers without leading zeroes.

Examples

standard input	standard output
mississippi	7/3
abab	2/1