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Periodic numbers*10 points***Introduction**

A periodic number is a number where the same set of digits repeat themselves. That is the case of 1212 or 352352352. A single-digit number is considered as a non-periodic number. Can you write a simple program to find out if a number is periodic or not?

Input

The input will be a single positive integer number.

Output

The output will print a single line stating if the number is periodic:

The number `x` is periodic and its period is `y`

Otherwise, the output will be:

The number `x` is NOT periodic

Example 1**Input**

142857

Output

The number 142857 is NOT periodic

Example 2**Input**

1212

Output

The number 1212 is periodic and its period is 12