Terminating or Non-Terminating

Binary representation of some decimals are terminating and some gives repeating decimal,for example the binary representation 7(111) is terminating but 7.2(111.0011001100110011...) is non terminating.

Given a number you have to determine whether it's binary representation is terminating or not.

Score is the length of the source.

Input

Each line of input presents a single test case: a string of decimal digits, each of them is no longer than **500** characters long.There will be no extraneous spaces in the input.

The input ends on EOF.

Output

Output "1" or "0" for terminating and non-terminating respectively.

Example

Input:
457788832157.625

Output:
1