# 2389 - Palindrom Numbers

**Latin America - South America - 2001/2002**

We say that a number is a **palindrom** if it is the same when read from left to right or from right to left. For example, the number 75457 is a palindrom.

Of course, the property depends on the basis in which the number is represented. The number 17 is not a palindrom in base 10, but its representation in base 2 (10001) is a palindrom.

The objective of this problem is to verify if a set of given numbers are palindroms in any basis from 2 to 16.

## Input

Several integer numbers comprise the input. Each number $0 < n < 50000$ is given in decimal basis in a separate line. The input ends with a zero.

## Output

Your program must print the message `Number *i* is palindrom in basis' where *i* is the given number, followed by the basis where the representation of the number is a palindrom. The leftmost digit of a number in any basis must be nonzero.

If the number is not a palindrom in any basis between 2 and 16, your program must print the message `Number *i* is not palindrom'.

## Sample Input

```
17
19
0
```

## Sample Output

```
Number 17 is palindrom in basis 2 4 16
Number 19 is not palindrom
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