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**How many digits?****X08783\_en**

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Write a program that computes the number of digits in several bases.

**Input**

Input consists of a sequence of pairs of natural numbers  $b$  and  $n$ , such that  $b \geq 2$  and  $n \geq 1$ .

**Output**

For every pair, print the number of digits of  $n$  in base  $b$ .

**Sample input**

```
2 8
2 9
2 15
2 16
3 6
10 1
10 10
10 100
10 1000
```

**Sample output**

```
4
4
4
5
2
1
2
3
4
```

**Problem information**

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