
How many digits?

X08783_en

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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