Logarithms   P90133_en

Write a program that computes logarithms 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 $\lfloor \log_b n \rfloor$.

Sample input 1	Sample output 1
2 8	3
2 9	3
2 15	3
2 16	4
3 6	1
10 1	0
10 10	1
10 100	2
10 1000	3

Problem information

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