

Scales

Camp IT 2019, Day 5, Available memory 256 MB

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Kacper wants to weigh the mass of a certain object (he knows that the weight is an integer). He's got scales and infinite supply of weights of each mass that is equal to 1, a power of 6 or a power of 9.

Kacper has been told that the mass of the object is N and he wants to confirm it using just one weighing. Furthermore, he can put the weights only on the opposite side of the scales than the object. What is the minimum number of weights required to check the weight of the object?

Constraints

- $1 \leq N \leq 100000$
- N is an integer.

Input

Input is given from Standard Input in the following format:

N

Output

If at least x weights are required to check whether object weighs precisely N , print x .

Example

Input	Output
127	4
3	3
44852	16

Notes

- Sample 1: By putting weights weighing 1, 9, $36(= 6^2)$ and $81(= 9^2)$, we can check whether the object has weight exactly 127 using just four weights.
- Sample 2: Just use three weights, each weighing 1.