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## The lightest pearl

P11914\_en

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*“Given eight identical pearls, except for one that is a little lighter, how do you find which one is the lightest pearl with only two weighings?”*

This is the last problem that the seven sages put to Beremiz, who solved the problem easily.

### Input

Input consists of several cases, each with a natural number  $p$  between 1 and  $10^9$ .

### Output

For every case, print the minimum number of the weighings to identify with certainty, given  $p$  identical pearls, except for one that is a little lighter, which is the lightest pearl. Suppose that the scale can only compare the weight of two groups with the same (arbitrarily large) number of pearls.

#### Sample input

```
8
10
1
```

#### Sample output

```
2
3
0
```

### Problem information

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