3D Printed Statues

Problem ID: 3dprinter
CPU Time limit: 1 second
Memory limit: 1024 MB
Difficulty: 1.9

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Source: KTH Challenge 2017

You have a single 3D printer, and would like to use it to produce n statues. However, printing the statues one by one on the 3D printer takes a long time, so it may be more time-efficient to first use the 3D printer to print a new printer. That new printer may then in turn be used to print statues or even more printers. Print jobs take a full day, and every day you can choose for each printer in your possession to have it print a statue, or to have it 3D print a new printer (which becomes available for use the next day).

What is the minimum possible number of days needed to print at least n statues?

Picture by Ariosvaldo Gonzáfoles, cc-by

Input

The input contains a single integer n ($1 \leq n \leq 10\,000$), the number of statues you need to print.

Output

Output a single integer, the minimum number of days needed to print at least n statues.

Sample Input 1

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1
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Sample Output 1

```
1
```

Sample Input 2

```
5
```

Sample Output 2

```
4
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