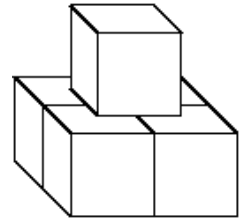


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**Sand Castle****X36488\_en**

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One of Roger's favorite activities at the beach is building sand castles. Roger has a bucket that he can fill with wet sand and turn upside down to form a sand block. However, since the sand is slippery, the sand block will fall down unless it is placed on the beach itself, or on top of four stable blocks (as shown in the figure). Today Roger wants to build a sand castle that is as high as possible. Can you help him?

**Input**

A sequence of integers  $0 \leq N \leq 10^9$ , denoting the number of sand blocks that Roger has available to build his castle.

**Output**

For each input, a single line with an integer denoting the highest castle that Roger can build using that amount of sand blocks.

**Sample input 1**

```
0
1
3
5
10
15
30
50
100
1000000000
```

**Sample output 1**

```
0
1
1
2
2
3
4
4
6
1441
```

**Problem information**

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