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Sara and her game   Problem Code: **CWHIZZ04**

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1★ kisr…	0.00	14.9M	C++ 6.3	View (/…
a009s (/…	0.00	14.9M	C++ 6.3	View (/…
t009s (/u…	0.00	15.7M	C++ 4.3.2	View (/…

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Problem description.

Sara is playing "Reach the Destination" game. She is standing on some random step and has to reach 1st step with minimum number of jumps. But she has to follow few rules to find her next step. If she is standing at N^{th} step then her next step can either be **(N-1) or (N+1) or (N/3) (purely divisible by 3)** step. Help Sara to reach 1st step with minimum number of jumps.

Input

Input consists of a single integer **T** denoting the number of test cases. It follows **T** lines, each line consists of a single integer **N**, representing the step number on Sara is standing.

Output

For the given value of **N**, output the minimum number of jumps required to reach 1st step.

Constraints

- **1 ≤ T ≤ 10**
- **0 ≤ N ≤ 10^5**

Example

```
Input:
1
37


Output:
5
```
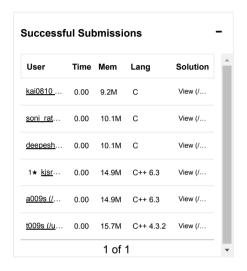
Explanation

```
1st jump to (37-1) = 36
2nd jump to (36/3) = 12
3rd jump to (12/3) = 4
4th jump to (4-1) = 3
5th jump to (3/3) = 1
Answer is 5.
```

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Tags: kjsreddy123 (/tags/problems/kjsreddy123)

Date Added: 11-01-2018

Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: ADA, ASM, BASH, BF, C, CAML, CLOJ, CLPS, COB, CPP 4.3.2, CPP 6.3, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, kotlin, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.5, RUBY, rust, SCALA, SCM chicken, SCM guile, SCM qobi, ST, swift, TCL, TEXT, WSPC

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CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

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