

CRZYSMKR - Crazy Smoker

The "**BHAI Group**" Of IIIT Allahabad is Famous For Many Things,Leading In Every Field Of College Activity

So One Day The **Leader Of Bhai Group** decided to smoke **C(N)** cigarettes each day:

$$- F(N) = 34^N + (30 \times N) + 32$$

$$- C(N) = F(N) \bmod (11), \text{ where } x \bmod (y) \text{ is the remainder obtained by dividing } x \text{ by } y.$$

But Bhai **Group's Leader's Girlfriend** wants that he doesn't smoke any cigarette, so she made modifications:

$$- F(N) = 34^N + (30 \times N) + (32 + M)$$

$$- C(N) = F(N) \bmod (11)$$

Edit 1 : Time Limit Set To .100s

Problem Credits : IIIT Allahabad HE Club

Input

First line of each test case is an integer **T**, total number of test cases. Next **T** lines contains a single integer **N**.

Output

Print the **minimum** value of **M** in single line for each test case.

Constraints

$1 \leq T \leq 10^6$

$1 \leq N \leq 10^{18}$

Example

Input:

2
1
2

Output:

3
6

Explanation :

For $N = 1$

$F(N) = 34 + 30 + 32 = 96$

So, $M = 3$

Now, $C(N) = 99 \bmod(11) = 0$

For $N = 2$

$F(N) = 1156 + 60 + 32 = 1248$

So, $M = 6$

Now, $C(N) = 1254 \bmod(11) = 0$

[Submit solution!](#)

Added by: [NumeriX](#)

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Time limit: 0.100s

Source limit: 50000B

Cluster: [Cube \(Intel G860\)](#)

Languages: All

Resource: HackerEarth Contest Of IIIT Allahabad