

1631 - Triple Fat Ladies

Description

Mr. HKP likes to watch the patterns that emerge in numbers. After completing his long investigation into the squares of numbers, has turned to the cubes. Now wants to find all the numbers whose cube ends in 888. Given a number k , Mr. HKP need help for finding the k -th number (starting at index 1) whose cube ends in 888.

Input specification

The first line of input is an integer t , the number of test cases. T test cases follow.

Each test case consists of a line containing a single integer k ($1 \leq k \leq 2$ trillion).

Output specification

For each test case, print a unique number that denotes the k th number whose cube ends in 888. The result will be less than 2^{63} .

Sample input

```
1
1
```

Sample output

```
192
```

Hint(s)

Source

Sphere Online Judge

Added by

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Caribbean Online Judge

Time limit (ms)	2000
Test limit (ms)	1000
Memory limit (kb)	130000
Output limit (mb)	64
Size limit (bytes)	30000
Enabled languages	C C# C++ Java Pascal Perl PHP Python Ruby Text