

BlueBook - Leap Year

Time limit: 1.0s **Memory limit:** 16M

BlueBook

Given T ($1 \leq T \leq 10\,000$) non-negative year values, where each year Y is $0 \leq Y \leq 1\,000\,000$, determine whether or not each one is a leap year.

Remember: A year is a leap year if it is divisible by 4 but not by 100 or if it is divisible by 400. 0 is considered a leap year.

Input Specification

Line 1: A single integer representing the number of test cases (years to be entered)

Next T lines: Each year value

Output Specification

Lines 1 . . . T : one integer or denoting whether N is a leap year. Output if N is a leap year, and otherwise.

Sample Input

```
4
0
4
100
400
```

Sample Output

```
1
1
0
1
```