

1903 - I2P(II)Yang_Winter_Vacation_Homework_2020

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Time

2020/01/20 00:00:00

32days, 08:32:01

2020/02/22 00:00:00

Clarification

Problem

Asker

Description

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Overview

Problem ▾

12611 - The Same Calendar

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Description

Problem slightly modified from Codeforces Educational Round 13
(<https://codeforces.com/contest/678/problem/B>)

The girl Taylor has a beautiful calendar for the year y . In the calendar all days are given with their days of week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday.

The calendar is so beautiful that she wants to know what is the next year after y when the calendar will be exactly the same. Help Taylor to find that year.

Note that leap years has 366 days. The year is leap if it is divisible by 400 or it is divisible by 4, but not by 100

(https://en.wikipedia.org/wiki/Leap_year

(https://en.wikipedia.org/wiki/Leap_year)).

Input

The first line contains an integer T .

The following are T lines, each line contains integer y ($1000 \leq y < 100000$) — the year of the calendar.

Output

For each y , print an integer y' — the next year after y when the calendar will be the same. Note that you should find the first year after y with the same calendar.

Sample Input

Download (<data:text/plain;charset=utf-8,3%0D%0A2016%0D%0A2000%0D%0A50501>)

```
3
2016
2000
50501
```

Sample Output

Download (<data:text/plain;charset=utf-8,2044%0D%0A2028%0D%0A50507>)

```
2044
2028
50507
```

Discuss