



COMPETITIE

PROG-A-THON

2: Croatian Happy Hours

Level: easy

Time limit: 2.000 seconds

You are planning to go on a vacation somewhere in Southeast Europe. Somewhere where you can relax and have some drinks. A nice bar in Croatia has a special offer for students. Some days in the week, students can get free drinks between 21:00h and 22:00h. They have sent you a sequence of seven integers x_1, x_2, \dots, x_7 ($x_i = 0$ or $x_i = 1$):

- $x_1 = 1$ if and only if there is an happy hour on Sundays;
- $x_2 = 1$ if and only if there is an happy hour on Mondays;
- ...
- $x_7 = 1$ if and only if there is an happy hour on Saturdays;

The bar has confirmed that they are offering the discount at least one day of a week.

You do not have much money and can only stay for a short number of days. Therefore, you want to know the minimum number of continuous days you have to stay in order to benefit from exactly h happy hours.

Input

The first line contains an integer c ($1 \leq c \leq 10000$), the number of test cases to process. You have to solve the problem for each case independently and print the answer.

Each test case consists of two lines. The first line contains an integer h ($1 \leq h \leq 10^8$), the required number of happy hours you want to enjoy. The second line contains the sequence of exactly seven integers x_1, x_2, \dots, x_7 ($x_i = 0$ or $x_i = 1$) where $x_i = 1$ if and only if there is a happy hour held on the i -th day of a week.

Output

Print c lines, where the i -th line should contain the answer of the i -th test case. An answer is the length of the shortest continuous days you have to be in Croatia to enjoy exactly h happy hours.

Sample input 1

```
3
2
0 1 0 0 0 0 0
100000
1 0 0 0 1 0 1
4
1 0 0 0 0 1 0
```

Sample output 1

```
8
233332
10
```

Elaboration

The answer of the first test case is 8, since you arrive in Croatia on Monday, have a happy hour in the evening, spend a week until next Monday and have a happy hour then as well. Thus, in order to enjoy 2 happy hours, you will need to spend 8 days in Croatia.