Jiaxun!

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

There are three students training hard for ICPC. They are practicing on a problemset consisting of exactly S problems. Each problem belongs to exactly one of the following seven categories, describing which subset of students can solve it:

- F_1: only student 1 can solve;
- F_2: only student 2 can solve;
- F_3: students 1 and 2 (but not 3) can solve;
- F_4: only student 3 can solve;
- F_5: students 1 and 3 (but not 2) can solve;
- F_6: students 2 and 3 (but not 1) can solve;
- F_7: students 1, 2 and 3 can all solve.

It is guaranteed that

$$F_1 + F_2 + F_3 + F_4 + F_5 + F_6 + F_7 = S.$$

You are going to **assign each problem to exactly one student who can solve it**. Your goal is to make the training as balanced as possible: maximize the minimum number of problems solved by any single student. Output this maximum possible value.

Input

The first line contains a single integer T ($1 \le T \le 10^5$)— the number of test cases.

For each test case, the first line contains a single integer S ($0 \le S \le 7 \times 10^8$).

The second line contains seven non-negative integers $F_1, F_2, F_3, F_4, F_5, F_6, F_7$ ($0 \le F_1, \cdots, F_7 \le 10^8$).

It is guaranteed that $F_1 + \cdots + F_7 = S$.

Output

For each test case, print a single integer — the maximum possible value of the minimum solved-count among the three students after assigning all S problems.

Example

standard input	standard output
4 36 14 4 3 2 9 0 4 41 4 8 4 4 3 14 4 53 3 0 12 6 14 11 7 55 11 10 11 10 2 8 3	11 13 17 18