Challenge Day

The Day of Challenge is one of the favorite social sport events of people since 1991. In Hungary, 1591 settlements have taken part in the challenge so far. Last year, the populations of the villages and towns taking part did 48 million minutes of sport during a single day.

To apply for the challenge, the name of the settlement, the population, and the number of people willing to take part is needed. When processing the data, the settlements are categorized according to this: I. category: less than 700 people as population; II. category: 700-1499 people; III. category: 1500-2999 people; IV. category: 3000-7999 people; V. category: 8000-24999 people; VI. category: 25000-69999 people; VII. category: more than 70000 people.

Write a program that gives at which registration the sum of participants reached (or went over) the expected 10000 people.

Input

The first line of the *standard input* contains the count of settlements ($1 \leq N \leq 100$) who applied for the challenge. The next N lines contain the data about a settlement each: the name of the settlement, the population ($1 \leq P \leq 200\,000$) and the count of those taking part ($1 \leq R \leq 10\,000$).

Output

The first line of the *standard output* should contain the index of the first registration at which the sum of participants reached (or went over) the expected 10000 people. If the sum of participants was less than 10000, the output should be -1.

Example

Input

```
4
Miskolc
166823
1234
Aszód
5772
234
Zirc
7454
333
Bóly
3939
```

Output

```
-1
```

282

Limits

Time limit: 0.1 second

Memory limit: 32 MB

Evaluation: In 40% of tests, the count of data is ≤ 20