How Many Games?

A player has played unknown number of games. We know the average score of the player (sum of scores in all the games / number of games). Find the minimum number of games the player should have played to achieve that average.

The player can score any non-negative integer score in a game.

Input

The first line consists of an integer t, the number of test cases. Each test case consists of a single rational number which represents the average score of the player.

Output

For each test case, find the minimum number of matches the player should have played to achieve that average.

Constraints

```
1 <= t <= 1000
```

1 <= average <= 1000000 (maximum 4 digits after the decimal place)

Example

Input:

3

5

5.5

30.25

Output:

1

2