

# "I'm on diet!"



Darshit leaves the Exam hall and goes to canteen. Sees his friend, who is a girl, in the canteen. He joins her and says, "Mast gaya paper. Today my treat!" asks if she wants to have anything? She says, "I'm on diet. So bring less food, but expensive."

Darshit reaches the counter and sees the board:

```
| ITEM | PRICE | | ----- |:-----:| | Mango Bite | 1| | Cadbury Shots | 2| | Tea |4| |Samosa|8| |Pohe|16|
|Paratha|32|
```

Darshit wants make sure that:

1. All his money is spent
2. He buys minimum number of items

(An item can be bought multiple times, if needed)

Help him write a code that displays minimum number of items that can be bought using all money.

Input:

First line contains **N**, the number of test cases.

Each of the following **N** lines contains a single integer, **M** - the amount of money Darshit has.

Output:

Output the total number of items he would be buying, according to the two conditions mentioned above.

Each output has to be on a new line.

Constraints:

You can assume all inputs (N and M) would be positive integers less than 101.

Example: Input:

```
4
1
2
3
10
```

Output:

```
1
1
2
2
```