CODECON

Memory Limit: 256 MB
Time Limit: 2 s

Funfair Tickets (350 points)

Introduction

Alice is a big fan of theme parks. She is going to visit another funfair which has an interesting ticketing system.

The funfair charges for rides in fun tokens (FT) and the prices are the following:

- One ride costs 2 FT

- One hour ticket costs 5 FT

- 6 hour ticket costs 20 FT

- One day (24 hour) ticket costs 50 FT

Each ride lasts one minute. She knows that the theme park charges in an optimal way to minimize the cost. It means that the system chooses the optimal ticket to buy taking into account all of their previous tickets purchased.

Alice wants to know how much will she be charged after each ride. Help her figure that out.

Input Specifications

The first line contains one number N ($1 \leq N \leq 10^6$) - the number of attractions rides taken by Alice.

Then N lines follow each one of them indicating time T in minutes after entry ($0 \leq T \leq 10^9$) at which Alice rode an attraction.

All times are different and given in ascending order.

Output Specifications

For each of the N lines output how much Alice was charged for that ride.

Sample Input/Output

Input

```
3
5
20
55
```

Output

```
2
2
1
```

Explanation

The first two times Alice will be charged for single ride tickets. For the 3rd ride she will be charged the remaining amount for 1 hour ticket (5 - 2 - 2 = 1).