

7841 Terraced fields

Terraced fields with beautiful landscapes in Northwest Vietnam are popular destinations for tourists. At each terraced field selected as a tourist attraction, the local authorities build a staircase alongside the terraced field. The steps are numbered from 1 to n starting from the bottom of the hill. At steps divisible by 8 (i.e. steps numbered 8, 16, 24, etc.) and at the final step (i.e. n -th step), the step number is stone engraved as a height indication for tourists. It is considered that 6 and 8 are lucky digits so people used a precious stone to specifically engrave these digits.



There is a tour that goes to a terraced field having n steps. The price of the tour is the number of precious stone engraved digits on its steps.

For given n , your task is to determine the price of the tour.

Input

The input consists of several datasets. The first line of the input contains the number of datasets, which is a positive number and is not greater than 100,000. The following lines describe the datasets.

Each dataset is described by one line containing an integer n ($1 < n \leq 10^{18}$).

Output

For each dataset, write out on one line containing the price of the tour.

Sample Input

```
4
9
32
56
18
```

Sample Output

```
1
2
4
3
```