

0 0 Pairs

[English](#)

[Vietnamese](#)

A sequence consisting of one digit, the number 1 is initially written into a computer. At each successive time step, the computer simultaneously transforms each digit 0 into the sequence 1 0 and each digit 1 into the sequence 0 1.

So, after the first time step, the sequence 0 1 is obtained; after the second, the sequence 1 0 0 1, after the third, the sequence 0 1 1 0 1 0 0 1 and so on.

How many pairs of consecutive zeroes will appear in the sequence after n steps?

Input

Clarification for this Problem: The Range of inputs is from 1 to 999 in some order and in particular not in ascending order

Output

For each input n print the number of consecutive zeroes pairs that will appear in the sequence after n steps.

Sample

Sample Input

```
1
2
3
4
5
```

Sample output

```
0
1
1
3
5
```

Notice : Long output - 1.45MB - there are a lot of input/output so it is easy to TLE if you don't optimize in/out if you use Java ...