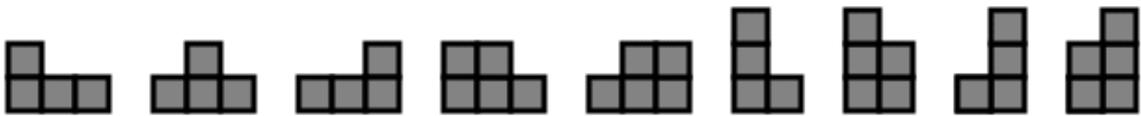


11885 Number of Battlefields

In the previous problem, we assume the perimeter of the figure equals to p , how many battlefields are possible? For example, there are no battlefields possible for $p < 8$, but two for $p = 8$:



Here are the nine battlefields for $p=10$:



You're asked to output the number of battlefields modulo 987654321.

Input

There will be at most 25 test cases, each with a single integer p ($1 \leq p \leq 109$), the perimeter of the battlefield. The input is terminated by $p = 0$.

Output

For each test case, print a single line, the number of battlefields, modulo 987654321.

Sample Input

```
8
9
10
0
```

Sample Output

```
0
2
0
9
```

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