Number of Parts in Convex Polygon

? Ask Doubt

Time-Limit: 1 sec Score: 50.00/100 Difficulty :

Memory: 256 MB Accepted Submissions: 100 Relevant For: AZ-201 AZ-202

Description

You have given Convex *N*-gon. Draw all diagonals of the convex *N*-gon. Suppose no three diagonals pass through a point. Into how many parts is the *N*-gon divided?

Input Format

The first line contains *T* ($1 \le T \le 100000$), the number of test cases.
Each of the next *T* lines contains a positive integer *N* denoting the number of sides of convex polygon ($3 \le N \le 10^9$).

Output Format

For each test case, print a single number denoting the number of parts the convex *N*-gon divided. Since answer can be large, print it with modulo 1000000007.

Sample Input 1

Copy

```
2
4
5
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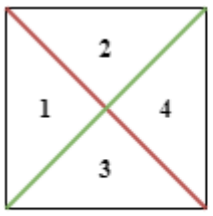
Sample Output 1

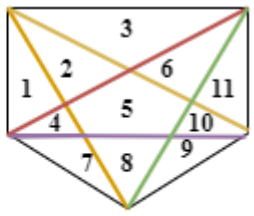
Copy

```
4
11
```

Note



Example 1



Example 2

C++14[GCC]

Submit

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1
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