Summing the N series

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You are given a sequence whose n^{th} term is

$$T_n = n^2 - (n-1)^2$$

You have to evaluate the series

$$S_n = T_1 + T_2 + T_3 + \cdots + T_n$$

Find $S_n \bmod (10^9 + 7)$.

Input Format

The first line of input contains T, the number of test cases.
Each test case consists of one line containing a single integer n.

Constraints

- $1 \leq T \leq 10$
- $1 \leq n \leq 10^{16}$

Output Format

For each test case, print the required answer in a line.

Sample Input 0

```
2
2
1
```

Sample Output 0

```
4
1
```

Explanation 0

Case 1: We have $4 = 1 + 3$
Case 2: We have $1 = 1$

Submissions: 8980
Max Score: 20
Difficulty: Medium

Rate This Challenge:

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Closed Form

More

Current Buffer (saved locally, editable) C

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <math.h>
4 #include <stdlib.h>
```

```
5
6  int main() {
7
8      /* Enter your code here. Read input from STDIN. Print output to STDOUT */
9      return 0;
10 }
11
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code