

# Timothy's Marbles

*Filename: marbles*

Timothy loves geometry! For his sixth birthday, he received a box with  $n$  marbles from his parents. He immediately began playing with them by arranging them along a circle. Timothy began wondering, how many different polygons can he make by drawing lines between the marbles? Two polygons are different if they are composed out of a different set of marbles.

## The Problem:

Given  $n$  marbles along a circle, count the number of unique polygons that can be made. As the answer can be very large, print it modulo 1,000,000,007.

## The Input:

The first line of the input file begins with a single, positive integer,  $t$ , representing the number of test cases. For each test case, a single line follows containing a single integer  $1 \leq n \leq 10^4$  representing the number of marbles.

## The Output:

For each test case, output a single line saying "Marble Set # $i$ :  $c$ " without the quotes, where  $i$  is the test case number, and  $c$  is the number of polygons Timothy can make modulo 1,000,000,007.

## Sample Input:

```
3
2
3
5
```

## Sample Output:

```
Marble Set #1: 0
Marble Set #2: 1
Marble Set #3: 16
```