Connecting Towns

HackerRank

Cities on a map are connected by a number of roads. The number of roads between each city is in an array and city 0 is the starting location. The number of roads from city 0 to city 1 is the first value in the array, from city 1 to city 2 is the second, and so on.

How many paths are there from city 0 to the last city in the list, modulo 1234567?

Example
$n = 4$
$routes = [3, 4, 5]$

There are 3 roads to city 1, 4 roads to city 2 and 5 roads to city 3. The total number of roads is $3 \times 4 \times 5 \mod 1234567 = 60$.

Note
Pass all the towns T_i for i=1 to n-1 in numerical order to reach T_n.

Function Description

Complete the *connectingTowns* function in the editor below.

connectingTowns has the following parameters:

- *int n:* the number of towns
- *int routes[n-1]:* the number of routes between towns

Returns

- *int:* the total number of routes, modulo 1234567.

Input Format
The first line contains an integer T, T test-cases follow.

Each test-case has 2 lines.
The first line contains an integer N (the number of towns).
The second line contains N - 1 space separated integers where the i^{th} integer denotes the number of routes, N_i, from the town T_i to T_{i+1}

Constraints
1 <= T<=1000
2< N <=100
1 <= routes[i] <=1000

Sample Input

```
2
3
1 3
```

```
4
2 2 2
```

Sample Output

```
3
8
```

Explanation

Case 1: 1 route from T_1 to T_2, 3 routes from T_2 to T_3, hence only 3 routes.
Case 2: There are 2 routes from each city to the next, hence 2 * 2 * 2 = 8.