

## 13233 Easy Permutation Problem

Define an alternating permutation of the set  $\{1, 2, 3, \dots, n\}$  to be an arrangement of those numbers such that the permutation  $a_1 \dots a_n$  satisfies  $(a_{i-1} < a_i \text{ AND } a_i > a_{i+1})$  or  $(a_{i-1} > a_i \text{ AND } a_i < a_{i+1})$  for all  $1 < i < n$ .

In this problem, compute the number of alternating permutations for a given triple of  $(n, a_1, a_n)$ .

### Input

A number of of inputs ( $\leq 1500$ ), each line with  $n, a_1, a_n$  ( $2 \leq n \leq 2000, 1 \leq a_1, a_n \leq n$ ).

### Output

For each input, output the total number of permutations *modulo* 1000000007 on one line.

### Sample Input

```
2 1 2
4 2 3
```

### Sample Output

```
1
2
```