

# Matrix Tracing



A word from the English dictionary is taken and arranged as a matrix. e.g. "MATHEMATICS"

```
MATHE
ATHEM
THEMA
HEMAT
EMATI
MATIC
ATICS
```

There are many ways to trace this matrix in a way that helps you construct this word. You start tracing the matrix from the top-left position and at each iteration, you either move RIGHT or DOWN, and ultimately reach the bottom-right of the matrix. It is assured that any such tracing generates the same word. How many such tracings can be possible for a given word of length  $m+n-1$  written as a matrix of size  $m * n$ ?

## Input Format

The first line of input contains an integer  $T$ .  $T$  test cases follow.

Each test case contains 2 space separated integers  $m$  &  $n$  (in a new line) indicating that the matrix has  $m$  rows and each row has  $n$  characters.

## Constraints

$$1 \leq T \leq 10^3$$

$$1 \leq m, n \leq 10^6$$

## Output Format

Print the number of ways ( $S$ ) the word can be traced as explained in the problem statement. If the number is larger than  $10^9+7$ ,

print  $S \bmod (10^9 + 7)$  for each testcase (in a new line).

## Sample Input

```
1
2 3
```

## Sample Output

```
3
```

## Explanation

Let's consider a word AWAY written as the matrix

```
AWA
WAY
```

Here, the word AWAY can be traced in 3 different ways, traversing either RIGHT or DOWN.

```
AWA
Y

AW
AY

A
WAY
```

Hence the answer is 3.

**Timelimit** Time limit for this challenge is given [here](#)