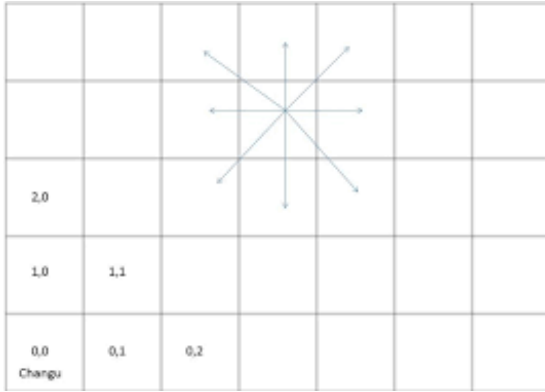


Garden of Mangu

Mangu bought a new garden for himself. The garden is shown below in the image. The garden is semi infinite i.e. infinite in two directions (+x direction and +y direction). Garden's square cells are indexed as in the diagram. Changu comes to visit Mangu and see his garden. He is standing initially on (0,0). From a particular cell he can travel in 8 directions if possible. His task is to go from (0,0) to (n,k) in n steps. Your task is to calculate the number of possible paths he can take.



Input

The first line contains the number of test cases, T. The next T lines contain two integers n and k separated by a single space.

Output

You have to print the number of possible paths modulus 1000000007.

Example

Input:

```
2
1 1
2 0
```

Output:

```
1
2
```

Explanation

The possible paths for two case are shown below:

Case 1:



This image is no longer available.
Visit tinypic.com for more information.

Case 2:



This image is no longer available.
Visit tinypic.com for more information.

Constraints:

$$T < 10^5$$

$$0 \leq N < 7000$$

$$0 \leq K \leq N$$