Custom Tile
Time limit: 1s

You have a narrow trail. After a few measurement, you find out that its length is ***N*** units and its width is **2** units. You have a lot of tiles of size 2x1 units. You would like to use these tiles to tile this trail so that every area of the trail is covered and no pair of tiles cover the same area.

With a few seconds of thinking, you can easily figure out the number of ways you can tile the trail. However, things get more complicated when your friend has offered you that she will build at most ***K*** custom tiles for you for free. A custom tile is constructed from a single 2 x 2 tile, however your friend refuses to give you more of the 2x1 tiles or 1x1 tiles. The following figure shows 2 possible shapes for custom tiles.

Note that any tile can be rotated in any way before it is put on the trail.

Out of her good wish, you start getting a headache. It is time to start writing a program to find out the number of ways you can tile the trail. Since there can be many ways, you output the answer modulo 9241.

Input
The first line of the input contains an integer ***T*** (1 <= ***T*** <= 10), the number of test cases. Then ***T*** cases follow in the format below.

- Each test case contains a single line consisting of two integers ***N*** and ***K***. (1 <= N <= 100; 1 <= K <= 100)

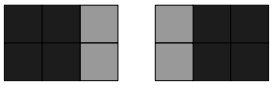
Output
For each test case, output the number of ways you can tile the trail provided that you use at most K custom tiles.

Example

Input	Output
4 3 0 3 1 3 2 10 0	3 5 11 89

Explanations
These are the ways you can tile a 3x2 trail with no custom tiles:

These are the ways you can tile a 3x2 trail with 1 custom tile:



These are the ways you can tile a 3x2 trail with 2 custom tiles: