We build a table of n rows (**1-indexed**). We start by writing 0 in the 1st row. Now in every subsequent row, we look at the previous row and replace each occurrence of 0 with 01, and each occurrence of 1 with 10.

* For example, for n = 3, the 1st row is 0, the 2nd row is 01, and the 3rd row is 0110.

Given two integer n and k, return the kth (**1-indexed**) symbol in the nth row of a table of n rows.

**Example 1:**

Input: n = 1, k = 1  
Output: 0  
Explanation: row 1: 0

**Example 2:**

Input: n = 2, k = 1  
Output: 0  
Explanation:   
row 1: 0  
row 2: 01

**Example 3:**

Input: n = 2, k = 2  
Output: 1  
Explanation:   
row 1: 0  
row 2: 01

**Constraints:**

* 1 <= n <= 30
* 1 <= k <= 2n - 1