There are **n** persons standing in the circle. The persons are numbered from **1 to n** in which **1 and n are adjacent to each other**. Here we have another variable **k** which denotes the person’s number to be killed. So each time when we count upto **k,** the **kth** person is killed and is removed from the circle. Then the counting starts from the next person and the process continues until one person is left .

**Given n and k , we have to find the position of the last person who is alive.**

|  |
| --- |
| Consider if **n = 5 and k = 2**, then the safe position is 3.  Firstly, the person at position 2 is killed, then person at position 4 is killed, then person at position 1 is killed. Finally, the person at position 5 is killed. So the person at position 3 survives. |

**Input**

* Input starts with **T** which denotes the number of test cases.
* Each of the test cases contains 2 positive integers **n** and **k.**

**Output**

Corresponding to each test case , the newline prints the **safe position.**

**Constraints:**

1 ≤ T ≤ 200

1 ≤ n, k ≤ 200

**Sample**

|  |  |
| --- | --- |
| **Input** | **Output** |
| **6**  **2 1**  **2 2**  **3 1**  **3 2**  **3 3** | **Case 1: 2**  **Case 2: 1**  **Case 3: 3**  **Case 4: 3**  **Case 5: 2**  **Case 6: 3** |

**Explanation:**

**Testcase 1:** Here n = 2 and k = 1, then safe position is 2 as the person at 1st position will be killed.