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PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

B. St. Chroma

time limit per test: 2 seconds memory limit per test: 256 megabytes

Given a permutation $^st p$ of length n that contains every integer from 0 to n-1 and a strip of ncells, St. Chroma will paint the *i*-th cell of the strip in the color $\text{MEX}(p_1, p_2, \dots, p_i)^{\dagger}$.

For example, suppose p=[1,0,3,2]. Then, St. Chroma will paint the cells of the strip in the following way: [0, 2, 2, 4].

You have been given two integers n and x. Because St. Chroma loves color x, construct a permutation p such that the number of cells in the strip that are painted color x is **maximized**.

The first line of the input contains a single integer t ($1 \le t \le 4000$) — the number of test cases.

The only line of each test case contains two integers n and x ($1 \le n \le 2 \cdot 10^5$, $0 \le x \le n$) the number of cells and the color you want to maximize.

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

Output

Output a permutation p of length n such that the number of cells in the strip that are painted color x is **maximized**. If there exist multiple such permutations, output any of them.

Example

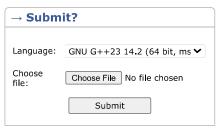
input	Сору
7	
4 2	
4 0	
5 0	
1 1	
3 3	
1 0	
4 3	
output	Сору
1 0 3 2	
2 3 1 0	
3 2 4 1 0	
0	
0 2 1	
0	
1 2 0 3	

Note

The first example is explained in the statement. It can be shown that 2 is the maximum amount of cells that can be painted in color 2. Note that another correct answer would be the permutation [0, 1, 3, 2].

In the second example, the permutation gives the coloring [0, 0, 0, 4], so 3 cells are painted in color 0, which can be shown to be maximum.





→ Last submissions		
Submission	Time	Verdict
317038348	Apr/24/2025 18:36	Accepted
317034134	Apr/24/2025 18:30	Wrong answer on test 2
317032598	Apr/24/2025 18:28	Wrong answer on test 2
317030756	Apr/24/2025 18:25	Wrong answer on test 1
317027915	Apr/24/2025 18:21	Wrong answer on test 2
317023238	Apr/24/2025 18:15	Wrong answer on test 1
317018918	Apr/24/2025 18:10	Wrong answer on test 1

^{*}A permutation of length n is a sequence of n elements that contains every integer from 0 to n-1 exactly once. For example, [0,3,1,2] is a permutation, but [1,2,0,1] isn't since 1 appears twice, and [1,3,2] isn't since 0 does not appear at all.

 $^{^\}dagger$ The MEX of a sequence is defined as the first non-negative integer that does not appear in it. For example, MEX(1,3,0,2) = 4, and MEX(3,1,2) = 0.

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