# HARBOUR SPACE UNIVERSITY

ashish.suman | Logout

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PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS STANDINGS CUSTOM INVOCATION

### C. No More Inversions

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

You have a sequence a with n elements

$$1, 2, 3, \ldots, k-1, k, k-1, k-2, \ldots, k-(n-k)$$
  $(k \le n < 2k)$ .

Let's call as inversion in a a pair of indices i < j such that a[i] > a[j].

Suppose, you have some permutation p of size k and you build a sequence b of size n in the following manner: b[i]=p[a[i]] .

Your goal is to find such permutation p that the total number of inversions in b doesn't exceed the total number of inversions in a, and b is *lexicographically maximum*.

Small reminder: the sequence of k integers is called a permutation if it contains all integers from 1 to k exactly once.

Another small reminder: a sequence s is *lexicographically smaller* than another sequence t, if either s is a prefix of t, or for the first i such that  $s_i \neq t_i$ ,  $s_i < t_i$  holds (in the first position that these sequences are different, s has smaller number than t).

#### Input

The first line contains a single integer t ( $1 \le t \le 1000$ ) — the number of test cases.

The first and only line of each test case contains two integers n and k ( $k \leq n < 2k$ ;  $1 \leq k \leq 10^5$ ) — the length of the sequence a and its maximum.

It's guaranteed that the total sum of k over test cases doesn't exceed  $10^5$ .

#### **Output**

For each test case, print k integers — the permutation p which maximizes b lexicographically without increasing the total number of inversions.

It can be proven that p exists and is unique.

#### Example

input	Сору
4	
1 1	
2 2	
3 2	
4 3	
output	Сору

1 2

2 1

1 3 2

#### Note

In the first test case, the sequence a = [1], there is only one permutation p = [1].

In the second test case, the sequence a=[1,2]. There is no inversion in a, so there is only one permutation p=[1,2] which doesn't increase the number of inversions.

In the third test case, a=[1,2,1] and has 1 inversion. If we use p=[2,1], then b=[p[a[1]],p[a[2]],p[a[3]]]=[2,1,2] and also has 1 inversion.

In the fourth test case, a=[1,2,3,2], and since p=[1,3,2] then b=[1,3,2,3]. Both a and b have 1 inversion and b is the lexicographically maximum.

#### Educational Codeforces Round 102 (Rated for Div. 2)

#### **Finished**

#### **Practice**



#### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

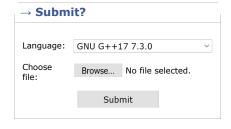
#### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

## → Clone Contest to Mashup

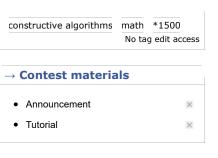
You can clone this contest to a mashup.

Clone Contest



ightarrow Last submissions		
Submission	Time	Verdict
104525238	Jan/16/2021 19:16	Accepted
104524667	Jan/16/2021 19:09	Wrong answer on test 1
104524524	Jan/16/2021 19:07	Wrong answer on test 1
104524447	Jan/16/2021 19:06	Wrong answer on test 1
104524347	Jan/16/2021 19:04	Wrong answer on test 1
104524165	Jan/16/2021 19:01	Wrong answer on test 1
104524105	Jan/16/2021 19:01	Compilation error

→ Problem tags



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Desktop version, switch to mobile version.

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