

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

$1, 2, 3, \dots, k-1, k, k-1, k-2, \dots, k-(n-k)$ ($k \leq n < 2k$).

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 ($1 \leq t \leq 1000$) — 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	Copy
<pre>4 1 1 2 2 3 2 4 3</pre>	
output	Copy
<pre>1 1 2 2 1 1 3 2</pre>	

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

→ Submit?

Language: GNU G++17 7.3.0
 Choose file: Browse... No file selected.
 Submit

→ 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

[constructive algorithms](#)[math](#) [*1500](#)

No tag edit access

[→ Contest materials](#)

- [Announcement](#) 
- [Tutorial](#) 

[Codeforces](#) (c) Copyright 2010-2021 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Jan/16/2021 21:46:56^{UTC+5.5} (h3).
Desktop version, switch to [mobile version](#).
[Privacy Policy](#)

Supported by



ITMO UNIVERSITY