Absolute Permutation

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Submissions: 1082
Max Score: 40
Difficulty: Moderate
More

We define P to be a permutation of the first N natural numbers in the range $[1, N]$. Let pos_i denote the position of i in permutation P (please use 1-based indexing).

P is considered to be an *absolute permutation* if $abs(pos_i - i) = K$ holds true for every $i \in [1, N]$.

Given N and K, print the lexicographically smallest absolute permutation, P; if no absolute permutation exists, print `-1`.

Input Format

The first line of input contains a single integer, T, denoting the number of test cases.
Each of the T subsequent lines contains 2 space-separated integers describing the respective N and K values for a test case.

Constraints

- $1 \leq T \leq 10$
- $1 \leq N \leq 10^5$
- $0 \leq K < N$

Output Format

On a new line for each test case, print the lexicographically smallest absolute permutation; if no absolute permutation exists, print `-1`.

Sample Input

```
3
2 1
3 0
3 2
```

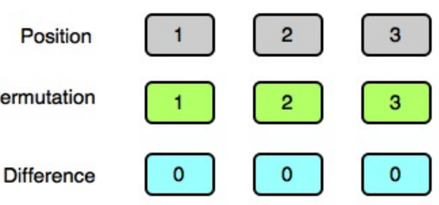
Sample Output

```
2 1
1 2 3
-1
```

Explanation

Test Case 0:

Test Case 1:



Test Case 2:
No absolute permutation exists, so we print `-1` on a new line.

Current Buffer (saved locally, editable) | Java 8

```
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
    }
}
```

Line: 1 Col: 1

Upload Code as File | Test against custom input | Run Code | Submit Code