Absolute Permutation



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 $\mathbf 2$ space-separated integers describing the respective N and K values for a test case.

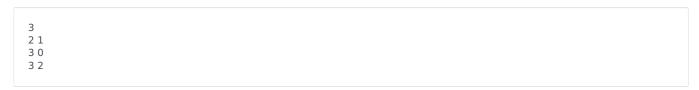
Constraints

- $1 \le T \le 10$
- $1 \le N \le 10^5$
- 0 < 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



Sample Output

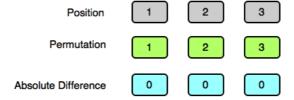


Explanation

Test Case 0:



Test Case 1:



Test Case 2:

No absolute permutation exists, so we print -1 on a new line.