Haitang and Triangle

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given two integers n, m, construct a permutation of length n that satisfies the following conditions.

- There are exactly m subintervals of length 3 such that the numbers in these subintervals form a (non-degenerate) triangle.

Input

Each test contains multiple test cases. The first line contains an integer T ($1 \le T \le 10^5$) — the number of test cases. The description of the test cases follows.

The first and only line of each test case contains two integers n and m ($3 \le n \le 3 \times 10^5$, $0 \le m \le n-2$) — the length of permutation and the target subintervals.

It is guaranteed that the sum of n over all test cases does not exceed 3×10^5.

Output

For each test case, print one line.

If such a pair of permutations exists, print n integers p_i, representing the permutation you have constructed. Otherwise, print "-1".

Example

standard input	standard output
5 4 0 4 1 4 2 6 2 11 5	3 1 2 4 1 2 3 4 -1 5 2 4 3 1 6 11 2 10 3 1 6 8 4 5 7 9