SOLVEIT

Problem setter of INSOMNIA , MNNIT Allahabad decided to set a easy problem for all coders so that they can easily solve the problem and boost their confidence for rest of INSOMNIA.

The problem is a follows: You are given an array of size n while is initialized with 0.You will be given q queries of two types

Type 1: set in (input value)index k to -1

Type 2: print the index which has value -1 and is greater or equal to input index y

If there is no such value print -1

Note: Indexing is 1 based;

Input

First line contains two integers n and q separated by spaces

Next q lines contains type of query and for type 1 query integer k separated by a space and for type 2 integer y separated by a space;

1<=n<=10^6

1<=q<=10^6

1<=y,k<=n

Output

Print a single line for each query type 2 containing index which has value -1 and is greater or equal to input index y

Example

Input:
5 5

2 3

1 2

2 1

2 3

2 2

Output:

-1

2

-1

2