Problem F. G

Time limit   2000 ms
**Mem limit**   131072 kB

The directed unweighted graph is given. Sort topologically its vertices.

Input

The first line contains the number of vertices **n** (**1 ≤ n ≤ 10^5**) and the number of edges **m** (**1 ≤ m ≤ 10^5**) in a graph. Each of the next **m** lines describes the edge of the graph - two numbers, the initial and final vertex.

Output

Sort the graph topologically and print its sequence of vertices. If its impossible to sort graph topologically, print **-1**.
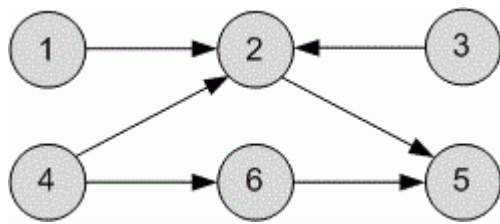
Sample 1

Input	Output
6 6 1 2 3 2 4 2 2 5 6 5 4 6	4 6 3 1 2 5