Senior Postmen

It is the year 2036 and Europe is crowded by senior citizens. In order to keep them healthy, the European ministry for majority groups (seniors *are* a majority!) suggests to have them deliver the small amount of paper mail that is still being sent — typically to seniors. This suggestion is going to be implemented all over Europe, even in the Free States of Norway and Switzerland.

The ministry has devised a "senior postmen system" in the following way: Europe has been divided into mail districts. A mail district has a street network of streets and junctions. Every street in the network can be walked in both directions. In each district, arbitrarily many senior citizens are available to be hired as mailman. Every morning, each mailman receives a bag with mail to be delivered on a tour that covers a part of the street network. Every tour must be senior–compatible, i. e. it must satisfy the following conditions:

- It starts and ends at the same junction. (Hey, it's a tour!)
- It never passes a junction more than once. (The seniors shall not be confused.)
- It must not have a street in common with any other tour; hence, any street in the district is to be served by exactly one mailman. (The seniors shall not fight with each other.)

Together, the tours must cover the given network: each street in the network must be part of exactly one tour.

Task

The ministry now needs a software that, for a given mail district's street network, will compute a set of senior–compatible tours that cover the network.

Input

The input describes the street network.

The first input line contains two integers N and M. N is the number of junctions, and M is the number of streets. Junctions are numbered from 1 to N.

Each of the following M lines contains two integers U, meaning that there is a street connecting junctions U and V.

For any input holds:

1. For any two junctions, you can walk from one junction to the other.
2. There is a solution, i.e. a set of senior-compatible tours can be computed that cover the network.

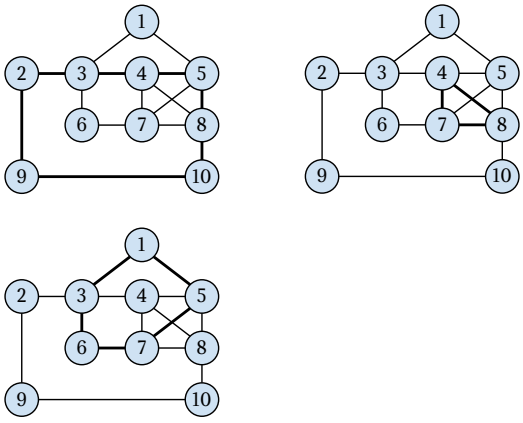
Output

The first output line is to contain an integer T, the number of tours.

The T tours are described in the following T lines. Each of these lines is to contain at first the number C of different junctions the mailman has to pass on this tour. The following C integers in the line are the numbers of the junctions in this tour. They must be output in the order the junctions are passed by the mailman, with the starting (and ending) junction being output first (and only once).

If there are two or more solutions, your program may output any of them.

Example

Input	Output	Comments
10 15 1 2 5 1 2 3 9 2 3 4 6 3 4 5 7 4 4 8 5 7 8 5 6 7 7 8 8 10 10 9	3 7 2 3 4 5 8 10 9 3 4 7 8 5 1 5 7 6 3	The following picture illustrates the street network and the three senior-compatible tours that may be used to cover it.  Note that there are several solutions to this example, among them some with only two tours.

Scoring

Subtask 1 (40 points): $1 \leq N \leq 2\,000$, $1 \leq M \leq 100\,000$.

Subtask 2 (20 points): $1 \leq N \leq 100\,000$, $1 \leq M \leq 100\,000$.

Subtask 3 (40 points): $1 \leq N \leq 1\,000\,000$, $1 \leq M \leq 1\,000\,000$.

Constraints

Time limit: 2 s.

Memory limit: 256 MB.