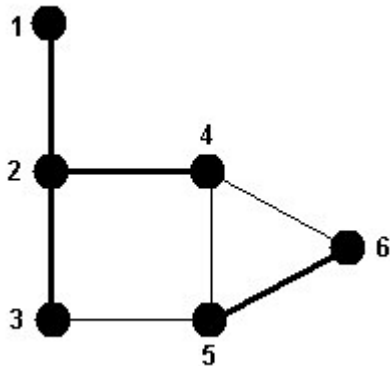




HIGHWAYS

There are c cities in the Yucatan Peninsula. These cities are interconnected via h highways. Because of its flat surface, the highways of the peninsula have very few curves and drivers tend to over speed. The government wants to implement a new traffic system that will set radars to measure the speed of cars in the highways.

The government can afford to put radars in at most c highways. The governor wants to set the radars so that for every city in the peninsula there is an odd number of highways that leave from that city that have the radar system.



Help the governor achieve his goal.

The figure shows a map of the cities and the highways. Circles represent the cities and lines represent the highways.

Thick lines represent the highways which have the radar system. You can see that for every city there is an odd number of highways that have the system. Also the number of highways with the radar system is less than c .

The cities will be arbitrarily numbered from 1 to c .

TASK

Write a program that given the map of the cities and the highways decides on which highways to set the radar system so that the goal of the governor is achieved and the budget is not exceeded.

CONSTRAINTS

$$0 < c \leq 10\,000$$

$$0 < h \leq 100\,000$$



INPUT

Your program must read from the file `highways.in` the following data

<code>highways.in</code>	DESCRIPTION
6 7 1 2 2 4 4 6 3 5 4 5 2 3 5 6	LINE 1: Contains 2 space-separated integers that represent c and h respectively NEXT h LINES: Each line contains 2 space-separated integers that represent a highway. The integers represent the cities in each end of the highway.

OUTPUT

Your program must write to the file `highways.out` the following data

<code>highway.out</code>	DESCRIPTION
4 1 2 2 3 2 4 5 6	LINE 1: Must contain one integer that represents the number of highways in which the radar system will be implemented or -1 if it is impossible to achieve the desired goal. NEXT LINES: Must contain 2 space-separated integers that represent the highway in which the system will be implemented.

GRADING INFO

In one test case every test run will satisfy the following constraints:

$$0 < c \leq 50$$

$$0 < h \leq 1\,000$$