

## Problem B. Brilliant Stars

Input file:            *standard input*  
Output file:           *standard output*  
Time limit:            3 seconds  
Memory limit:         256 mebibytes

Rabbit loves to watch stars. She has watched  $N$  stars, and she is going to take notes of some of them.

Some pairs of stars can be *similar*, and others not. Similarity is symmetric, that is, the pair of stars  $\{A, B\}$  is considered to be the same as  $\{B, A\}$ . Also, the following condition is satisfied: If there are four distinct stars  $A, B, C$  and  $D$  such that pairs  $\{A, B\}$ ,  $\{B, C\}$  and  $\{C, D\}$  are similar, then the pair  $\{A, C\}$  or  $\{B, D\}$  (or both) is similar.

Rabbit wants to take notes of as many stars as possible, but she will never write down about two similar stars on her notebook. Write a program that finds the maximum possible number of stars that she takes note, and how many combinations of stars can achieve the maximum, modulo 1 000 000 007.

### Input

The input is given in the following format:

```
 $N$   $M$   
 $X_1$   $Y_1$   
⋮  
 $Y_M$   $Y_M$ 
```

The first line contains two integers  $N$  and  $M$  ( $1 \leq N \leq 100\,000$ ,  $0 \leq M \leq 200\,000$ ), where  $N$  is the number of stars, and  $M$  is the number of similar pairs. The  $i$ -th line of the following  $M$  lines ( $1 \leq i \leq M$ ) contains two integers  $X_i$  and  $Y_i$  ( $1 \leq X_i < Y_i \leq N$ ), which means the  $X_i$ -th star and the  $Y_i$ -th star are similar.  $M$  pairs  $\{X_i, Y_i\}$  are distinct. Similarity satisfies the condition described in the statement.

### Output

Your program should output two lines. The first line should contain the maximum possible number of stars that she takes note. The second line should contain the number of combinations of stars that can achieve the maximum, modulo 1 000 000 007.

## Examples

standard input	standard output
4 3 1 2 1 3 1 4	3 1
11 5 1 2 3 4 5 6 7 8 9 10	6 32
9 14 1 2 1 3 2 3 3 4 3 5 3 6 3 7 3 8 3 9 4 5 4 6 5 6 7 8 8 9	4 6