

Requirement



There are n variables and m requirements. Requirements are represented as $(x \leq y)$, meaning that the x^{th} variable must be less than or equal to the y^{th} variable.

Your task is to assign non-negative numbers smaller than **10** to each variable and then calculate the number of different assignments satisfying all requirements. Two assignments are different if and only if at least one variable is assigned to a different number in both assignments. Print your answer modulo $10^3 + 7$.

Input Format

The first line contains **2** space-separated integers, n and m , respectively. Each of the m subsequent lines contains **2** space-separated integers describing the respective x and y values for an $(x \leq y)$ requirement.

Constraints

- $0 < n < 14$
- $0 < m < 200$
- $0 \leq x, y < n$

Output Format

Print your answer modulo $10^3 + 7$.

Sample Input 0

```
6 7
1 3
0 1
2 4
0 4
2 5
3 4
0 2
```

Sample Output 0

```
1000
```

Explanation 0

There are **6** variables and **7** requirements.

Let the variables be in the array $a[6]$.

Requirements are -

$$a[1] \leq a[3], a[0] \leq a[1], a[2] \leq a[4], a[0] \leq a[4], a[2] \leq a[5], a[3] \leq a[4], a[0] \leq a[2]$$

One of the assignments is - $\{1, 2, 3, 4, 5, 6\}$

Similarly there are **25168** assignments possible.

Result = $25168 \bmod 1007 = 1000$.