Easy When You Know How

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

There is a string $s = s_1 s_2 \ldots s_n$. Let's denote the substring $s_i s_{i+1} \ldots s_{i+l-1}$ by pair (i, l). Peter knows some facts about the string s and the i-th fact is that substring (x_i, l_i) is equal to substring (y_i, l_i).

Now, Peter wants to know how many strings containing lowercase English letters only satisfy all the facts. The answer may be too large, just print it modulo $10^9 + 7$.

Input

The input contains multiple test cases. For each test case:

The first line contains two integers n and m $(1 \le n, m \le 200000)$ – the length of the string and the number of facts.

The next m lines, each contains three integers x_i, y_i, l_i $(1 \le x_i, y_i, l_i \le n, \max\{x_i, y_i\} + l_i - 1 \le n)$

The sum of values of n in all test cases doesn't exceed 200000 and the sum of values of m in all test cases doesn't exceed 200000.

Output

For each test case output one integer denoting the answer. The answer must be printed modulo $10^9 + 7$.

Examples

standard input	standard output
5 5 1 1 1 2 2 1 3 3 1 4 4 1 5 5 1 8 3 1 4 3 3 4 1 4 6 3	11881376 676