Problem J. Just Counting

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

You are given an undirected graph without loops and multiple edges.

Find the number of ways to write integers $[0; 4]$ on edges such that for each vertex, the sum of weights of edges incident to it will be equal to zero modulo five (i.e. is equal to $5k$ for some integer k).

As the answer may be very large, you only need to find it modulo $998\,244\,353$.

Input

The first line of input contains one integer t ($1 \le t \le 500\,000$): the number of testcases.

The next lines contain t descriptions of test cases.

The first line of each test case contains two integers n, m ($1 \le n \le 200\,000, 0 \le m \le 300\,000$): the number of vertices.

The next m lines contain descriptions of edges, where the i-th of them contains two integers a_i, b_i ($1 \le a_i, b_i \le n, a_i \ne b_i$), denoting an edge connecting vertices a_i and b_i in the graph.

It is guaranteed that there are no multiple edges.

It is also **guaranteed** that the total sum of $n + m$ in all test cases is at most $500\,000$.

Output

For each test case, print one integer: the number of ways to write integers $[0; 4]$ on edges such that for each vertex, the sum of weights of edges incident to it will be equal to zero modulo five (i.e. is equal to $5k$ for some integer k), modulo $998\,244\,353$.

Example

standard input	standard output
3 1 0 3 3 1 2 2 3 3 1 4 4 1 2 2 3 3 4 4 1	1 1 5