Many Many Cycles

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

Consider an undirected graph G. Find the maximal number d such that the lengths of all simple cycles are divisible by d. If there is no such number, output 0.

Input

The first line contains two integers n and m: the number of vertices and edges ($1 \le n \le 5000$, $0 \le m \le 10\,000$). Each of the next m lines contains three integers a, b, and c, which mean that there is a bidirectional edge between vertices a and b with length c ($1 \le a, b \le n$, $1 \le c \le 10^9$). It is guaranteed that the graph doesn't contain loops or multiple edges.

Output

Print one integer: the answer to the problem.

Examples

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