7138 The Matrix Revolutions

During the last battle between human beings and the machines, the last human city named Zion, is being invaded. The force of the machine army is so powerful that the survivors of Zion have been surrounded in N separated forts. Our hero, Neo, was sent to rescue the human beings. The best way for Neo to help is to reconstruct the connections between the separated forts. This is the last chance for Neo to beat the machine army and save. all the human beings in the Matrix.

Now Neo has got the map of Zion from the Oracle, and he knows that there are M candidate bidirectional connections that Neo can reconstruct. The Oracle has given Neo the super power to construct wormholes to take the place of some roads. Note that wormholes behave exactly like roads, but are not considered roads. However, Neo's power is limited, and he can only build K wormholes at most. It is Neo's goal to connect all of the forts while using the smallest possible total number of roads and wormholes. Two forts are considered connected if either can be reached from the other using some combination of roads and/or wormholes. If there is a wormhole betwoen two forts, there is no need to construct a road. Given the map where Neo can build roads and wormholes, in how many different ways can Neo achieve his goal. As the answer may be very large, you can just tell Neo the answer *modulo* 1000000007 $(10^9 + 7)$.

Input

The first line of the input file is an integer T, which indicates the number of test cases. For each test case, the first line contains 3 integers N, M, K separated by spaces. Each of the following M lines contains 3 space-separated integers u, v, w, which means there is one candidate connection between fort u and fort v and its type is w. $w = 1$ means Neo can only build a wormhole here, $w = 2$ means Neo can only build a normal road here and $w = 3$ means Neo can build either a normal road or a wormhole here. You can assume that the candidate connections form no self-loops and that there is at most one candidate connection between any two forts.

Output

For each test case, output one line containing '`Case #`x`:` y', where x is the test case number (starting from 1) and y is the answer *modulo* $(10^9 + 7)$.

Limits:
$1 \le T \le 20$
$2 \le N \le 50$, $0 \le M \le N(N-1)/2$, $0 \le K \le M$, $0 \le K < N$
$1 \le u, v \le N$, $w \in \{1, 2, 3\}$

Sample Input

```
2
3 3 1
1 2 1
1 3 2
2 3 3
3 1 1
1 2 3
```

Sample Output

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Case #1: 4
Case #2: 0
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