Problem I. Shortest Path

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	512 megabytes

You are given an undirected weighted graph G with vertices $1, 2, \ldots, n$. Please output the sum of the answers to the following x questions:

- The i-th question ($1 \le i \le x$): What is the minimum length of path that starts at vertex 1, ends at vertex n, and contains exactly i edges?

For each question, if such a path does not exist, the answer is considered to be 0. A path may use one edge multiple times. Output the answer modulo 998244353.

Input

The first line contains one integer T ($1 \le T \le 2000$), the number of test cases.

For each test case, the first line contains three integers n, m, x ($1 \le n \le 2000, 0 \le m \le 5000, 1 \le x \le 10^9$). Each of the next m lines describes an edge of the graph. Edge i is denoted by three integers a_i, b_i, w_i ($1 \le a_i, b_i \le n, 1 \le w_i \le 10^9$), the labels of vertices it connects and its weight. Note that self-loops and parallel edges may exist.

It is guaranteed that the sum of n over all test cases is no more than 2000 and the sum of m over all test cases is no more than 5000.

Output

For each test case, output one integer modulo 998244353 denoting the answer.

Example

standard input	standard output
4 3 2 10 1 2 5 2 3 4 3 0 1000000000 3 3 100 1 2 3 1 3 4 2 3 5 4 6 1000000000 1 2 244 1 2 325 1 4 927 3 3 248 2 4 834 3 4 285	125 0 15300 840659991