Problem A – Action figures collection

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John as an action figures collector has registered to an application where he can buy and trade action figures. John has already built a shelf where he will put the N action figures that he needs to complete his collection, and in order to complete the collection he will do it only doing trades in the system.

The trading system has M users who already have defined what they want in order to trade their action figures, each user trade is defined by two lists and a price P_i, the first list declares what action figures the user wants in order to perform the trade, the second list declares what action figures the user will give in the trade and the price P_i defines how much the system will charge in order to perform the trade.

To perform a trade with a user, John has to pay P_i price and give the user all the action figures the user wants to perform the trade, after performing the trade John will receive all the action figures the user declared he will give in the trade. As the shelf John built can only keep the N figures he wants and he does not have more space to keep more figures he is not interested in keeping the same action figure more than once, in this sense John decided that if in a trade he will get a figure that he already has he will perform the trade but will not take that figure.

As there are a lot of users in the system, John wants your help to determine what is the minimum price he must pay in order to have all the action figures to complete his collection. You may consider that John can trade with the same user several times, meaning a user has an unlimited supply of each action figure he declared he will give in a trade.

Input

The first line of the input contains two integers N ($1 \leq N \leq 12$), M ($1 \leq M \leq 1000$), representing respectively the number of action figures John wants in his collection and the number of users in the system. The next M lines describe each user trade, the line starts with three integers separated by a space W_i ($0 \leq W_i \leq N$), G_i ($0 \leq G_i \leq N$) and P_i ($1 \leq P_i \leq 100$), representing respectively the number of action figures the i-th user wants to perform the trade, the number of action figures the i-th user will give in the trade and the amount the system will charge for performing that trade with the i-th user, the line is followed by W_i numbers separated by space with values between 1 and N, representing the W_i action figures the i-th user wants to perform the trade, followed by G_i numbers separated by a space representing the action figures the i-th user will give in the trade.

Output

Output a single line with an integer indicating the minimum amount John has to spend in order to complete his collection, print '-1' in case this is not possible.

Sample input 1	Sample output 1
2 3 0 2 10 1 2 1 1 5 1 2 0 1 2 1	9

Sample input 2	Sample output 2
3 3 1 1 5 1 2 1 1 5 2 3 1 1 5 1 3	−1