## Exploring the maze

## English

## Vietnamese

In a maze, there are N rooms and some corridors connecting the rooms. There is at most one corridor connecting each pair of rooms.

An explorer wants to explore that maze. He'll start at a room and go along all the corridors so that each corridor is passed exactly once. Then he'll return to the starting point. Each corridor is assigned a value c meaning that when going along that corridor, the explorer's energy points will be add up with c unit(s) (c may be negative). The explorer starts with 0 energy point. He'll die if after passing a corridor, his energy point is negative.

Your task is to help the explorer find a safe journey satisfying the given conditions.

## Input

- The first line contains two integers N and $\mathrm{M}(1 \leq \mathrm{N} \leq 200)$.
- The ith line in the next M lines contains three integers $\mathrm{u}, \mathrm{v}, \mathrm{c}$ representing a corridor connecting room $u$ and room v with c energy points. ( $|c| \leq 10000$ ).


## Output

- If there is no safe journey, print -1. Otherwise, print M+1 integers which are indexes of the rooms along the journey.


## Example

## Input

33
122
13-1
23-1
Output
2132

