

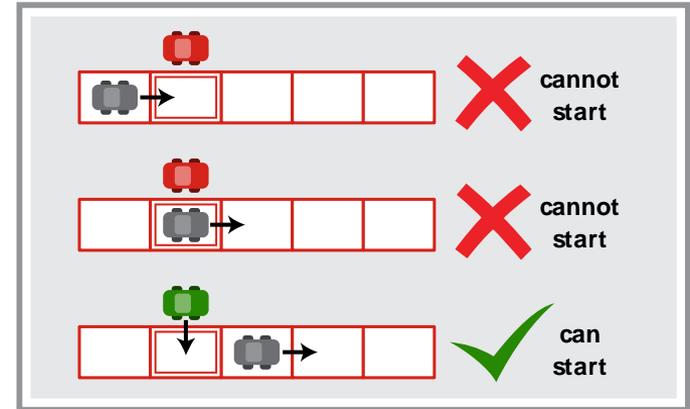


Starting at different times

Level 2

When not all trips start at the same time, additional rules become relevant:

- the starting time is the earliest time point a car can enter the start segment of its trip
- a car can only enter a road when, both, the start segment and the segment before were not occupied during the past second





Starting at different times

Level 2

Calculate the arrival times when the cars can have different starting times.

Input

like level 1 but with additional starting times

number road segments (n)

number of cars (m)

startsegment,endsegment,startingtime for car 1

...

startsegment,endsegment,startingtime for car m

$1 < n < 1000$

$1 < m < 1000$

$1 \leq \text{startsegment} < \text{endsegment} \leq n$

$1 \leq \text{starting time} \leq 10000$

Result:

arrival times of the cars, separated by comma, in the order of the input

Example input

```
40
10
11, 13, 28
30, 37, 62
4, 24, 102
6, 33, 138
27, 30, 154
20, 32, 170
11, 19, 196
2, 20, 209
18, 21, 239
23, 24, 273
```

Example output

```
31, 70, 123, 166, 158, 183, 205, 228, 243, 275
```