Jam City

Catalysts Coding Contest
Vienna 2015

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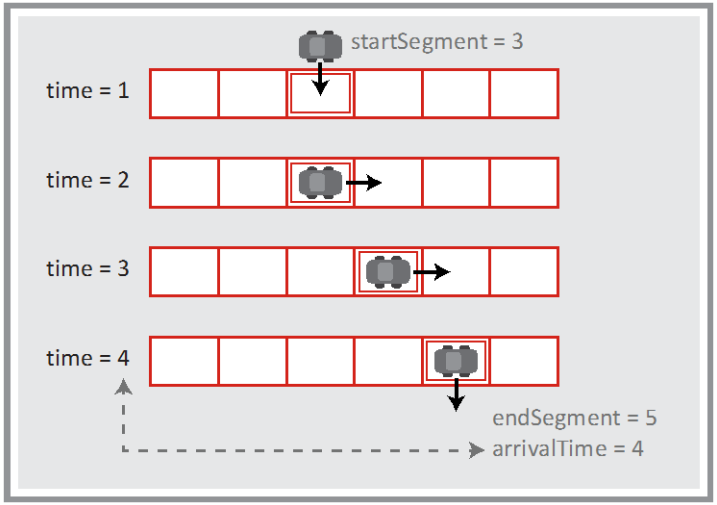
Increasing traffic makes it more and more difficult for car users to reach their target in time. Help them with a connected car app.

Your task in this CCC is to write a program to evaluate the optimal time to leave home to be at the target in time.

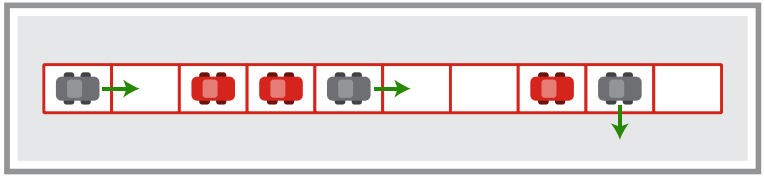
General Information

Info

- a road is divided into segments numbered from 1 to n
- within each segment, at any moment there can be at most one car
- a car can change segments at every full second



- a segment can be entered only when during the past second there was no car in it
- if it is not possible for a car to proceed it waits
- all segment changes occur simultanously
- each car has to perform a trip which consists of entering the road at a given start segment, subsequently moving from one segment to the next, and leaving the road at a given end segment
- the arrival time of a car is when it finishes its trip
- all trips within a test case will have different start segments



When will they arrive?

Level 1

Calculate the arrival times of a number of cars, which perform trips on one simple road.
- all trips start at time=1

Input:
Note: lines are separated by newline (\n)

number road segments (n)
number of cars (m)
startsegment,endsegment for car 1
…
startsegment,endsegment for car m

1 < n < 1000
1 < m < 1000
1 <= startsegment < endsegment <= n

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

Example input

```
100
5
3,99
40,75
20,99
28,76
1,100
```

Example output

```
98,37,81,50,101
```