



Level 2 – VIP elevator

We are now able to calculate travel times for specific distances. We use this now for a control system of a special VIP elevator.

The distance is removed from the input format and from now on calculated with the number of levels it has to travel multiplied by 4.5 (level height).

You have now to execute multiple VIP requests with a specific request / goal level and request timestamps.

Timestamps are always rounded up if an elevator stops in a level and not added up and rounded afterwards

Behavior

- VIPs always travel alone so the elevator processes one request after another
- Requests are executed sequentially, sorted by request timestamp



Input & Output

Input

acceleration maxSpeed deceleration
numberOfRequests
requestLevel requestGoal timestamp

Output

space separated request fulfillment timestamps in the
order of the input requests.

Example input

1.1 2.0 1.2
2
0 10 10000
40 30 160000

Example output

34243 253486

Note

A difference of 2 milliseconds is tolerated



Further description

Given this example input, you have one elevator with:

acceleration = 1.1 m/s^2 ; max. speed = 2.0 m/s ; deceleration = 1.2 m/s^2

And 2 Requests:

1st from level 0 to 10 @timestamp = 10000; 2nd from level 40 to 30 @timestamp = 160000

As the first request can be handled without delay and the elevator starts at level 0 at the beginning, we only have to ADD the start-timestamp (10000) with the travel time of the elevator from 0 to 10 (in that case 24243) to get the absolute timestamp, when the request has successfully been handled.

The second will be calculated analogously but with the difference, that the elevator will still be at level 10, when starting to handle the request.