Error Situation1: Elevator Opening/Closing door at same floor multiple times

Elevator

- Open door
- Close door
- Notify scheduler elevator button request
- Stop
- Move
- Idle

arrived floor n   arrived floor n

Scheduler

- Receive elevator arriving floor
- Receive elevator button request
- Receive floor button request
- Send elevator go to floor
- Waiting

go to floor n

go to floor n

Error Scenario 1: Elevator opens/closes door at same floor multiple times
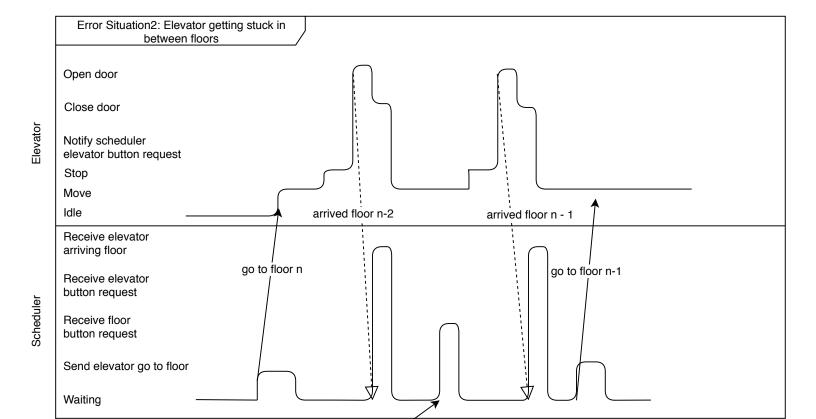
Scheduler sends elevator to go to floor n -> Elevator arrives at floor n -> elevator opens/closes door -> elevator notifies to Scheduler that it has arrived -> Before scheduler receives notify, scheduler sends elevator to go to floor n again because scheduler does not know elevator has arrived at floor n yet ->scheduler finally receives notify from elevator that it has arrived at floorn-> elevator receives go to floor n, and arrives at same floor again andopens/closes door at same floor

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Error Situation2: Elevator getting stuck in between floors

Elevator

- Open door
- Close door
- Notify scheduler elevator button request
- Stop
- Move
- Idle

arrived floor n-2   arrived floor n - 1

Scheduler

- Receive elevator arriving floor
- Receive elevator button request
- Receive floor button request
- Send elevator go to floor
- Waiting

go to floor n

go to floor n-1

Floor

Notify scheduler
floor request

go to floor n-1

Waiting

Error Scenario 2: Elevator getting stuck in between floors

Scheduler sends elevator to go to floor n -> elevatorreceives and starts moving -> elevator arrives at floor n-2, it notifies scheduler -> elevator starts moving and is now in somewhere between n-2 andn-1 ->scheduler receives elevators notification that elevator is in n-2 -> scheduler receives new floor request message from n-1 -> elevator arrives at floorn-1, notifies scheduler -> elevator starts moving, and is now somewhere between n-1 and n -> before scheduler receives notify from elevator, scheduler sends elevator to go tofloor n-1 -> scheduler receives that elevator is in floor n-1 -> elevatoris now stuck because elevator is in floor between n-1 and n with direction up,and tries to go to floor n-1.