Here is the programming assignment:

SmartKent is a software company that has a office space, 10 floor building, in the heart of Colombo.

In the Office space there are 2 lifts. Lift service are from floor 1 to 10. Here ground floor is first floor.

Due to current covid-19 situation, they want to restrict at-most only 1 person can travel in the lift and they want to operate the lift from mobile phone so that engineers don't need to touch the lift keys.

Before actual implementation, SmartKent wants to simulate it and selected you to do the job.

You aim is to build a small simulation service that is controlled via rest api.  
restApi:

**pickAndDrop(int fromFloor, int toFloor)**

**Returns a message stating that lift would be in x seconds to requester in floor 'fromFloor'**

Each lift would take 3 seconds to travel between two floors.  
Each lift would stop 4 seconds on the floor to pick and/or drop a person.

To understand whats going in lift, each lift would emit signals every time its state changes.  
Available states:

IDLE - no job.  
TO\_PICKUP - moving to the floor to pick up the person  
PICKUP - picking up the person.  
TO\_DROPOFF - moving to the destination floor  
DROPOFF - dropping off the person on the floor

Emit signal should be printed as logs along with floor no, direction (NAN, UP or DOWN), passenger count.

For example,  
20200511091223.123 {"liftId":1, "state":"IDLE", "direction":"NAN", "person": "0", "floor" : 1}  
20200511091223.123 {"liftId":2, "state":"TO\_PICKUP", "direction":"UP", "person": "0", "floor" : 5}

To keep it simple, in state TO\_PICKUP, lift would not stop in-between for new request.

Lets look an example,

Lift 2 is busy, lift 1 is IDLE in floor 1.  
When a passenger makes a request in floor 5 to go to floor 9 then the request would be:

curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=5&toFloor=9"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=5&toFloor=9%22)

and, response would be:

{"ETA" : 12}

Here it states that the estimated arrival is 12 seconds since it has to move 4 floors up.

Please implement the simple webapp to simulate the lift.  
Let both lifts to start from floor 1.

Run below given commands in new shell/terminal so that we can make request in parallel.

curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=5&toFloor=9"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=5&toFloor=9%22)  
curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=2&toFloor=7"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=2&toFloor=7%22)  
curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=10&toFloor=1"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=10&toFloor=1%22)  
curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=9&toFloor=8"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=9&toFloor=8%22)  
curl -v "[http://localhost:8090/smartkent/liftsimulation/?fromFloor=4&toFloor=10"](http://localhost:8090/smartkent/liftsimulation/?fromFloor=4&toFloor=10%22)

* Add some comments on the design decision that you have taken to implement this along with any assumptions.
* Upload to github and please share the link
* share the log statement that prints the lifts state