Task 1.
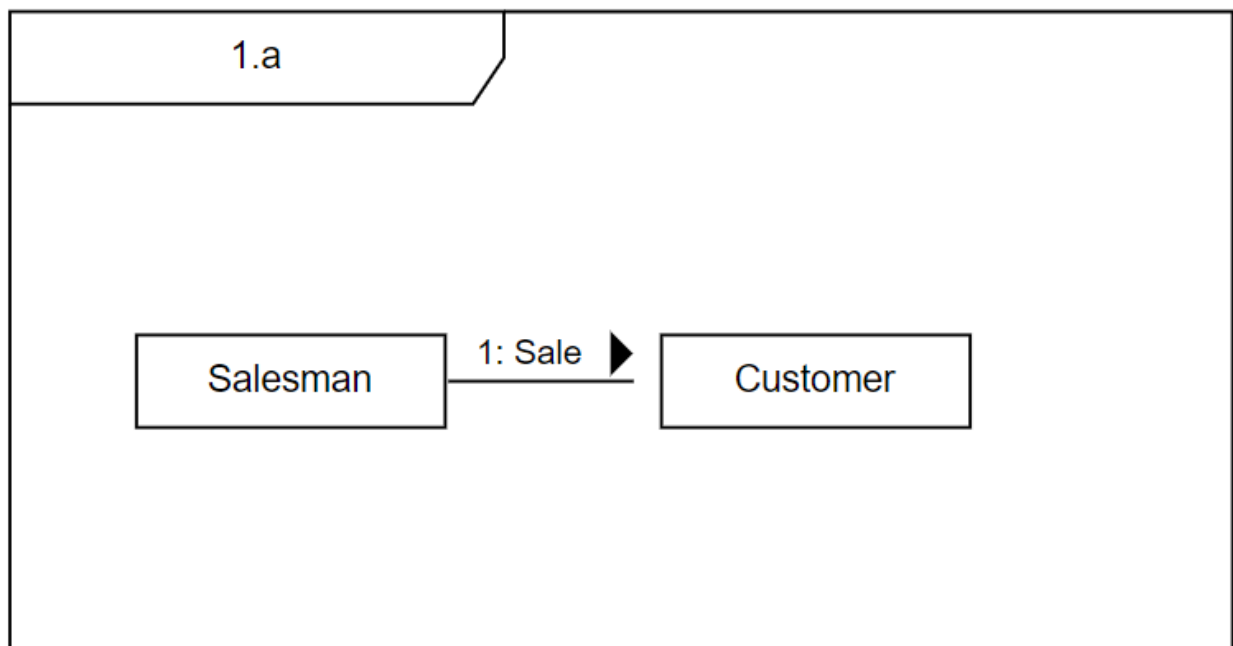Base diagram

1.a

1.b

1.b

Brokered Sale

salesman:Salesman

Salesman

SalesmanSale: Sale

Customer

broker: Broker

Salesman

customer: Customer

Customer

BrokerSale: Sale

1.c

1.c

Customer	Broker	Salesman

buy()

validate()

buy()

validate()

value

getCommision()

valueWithout Commision

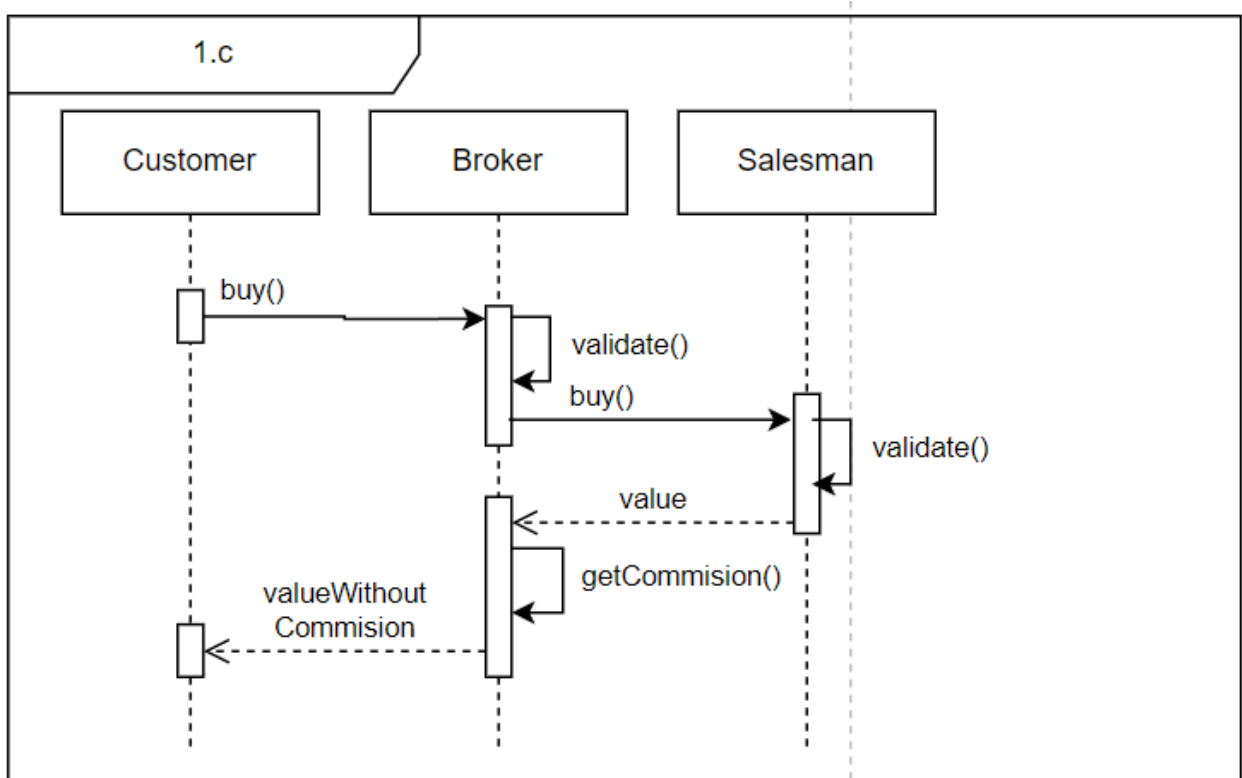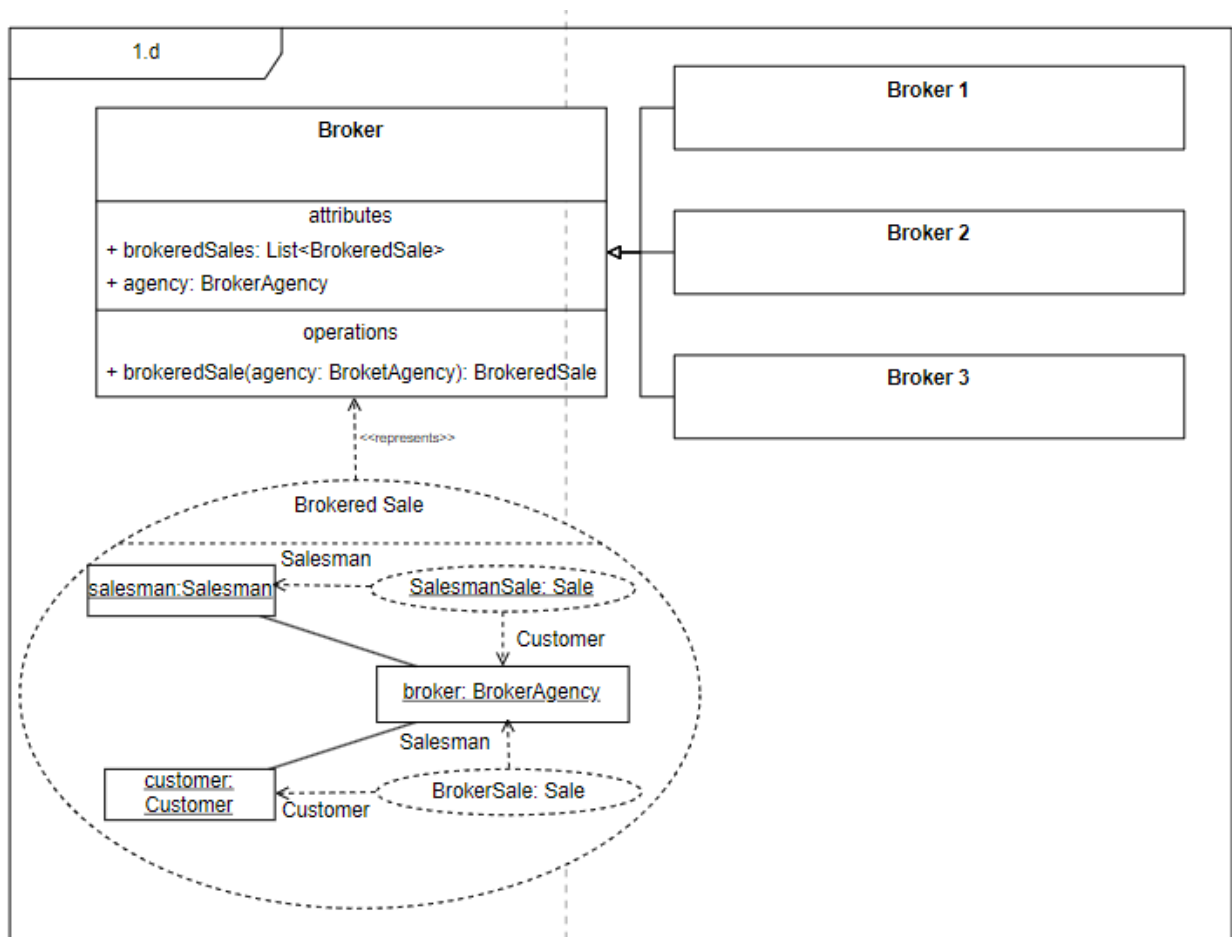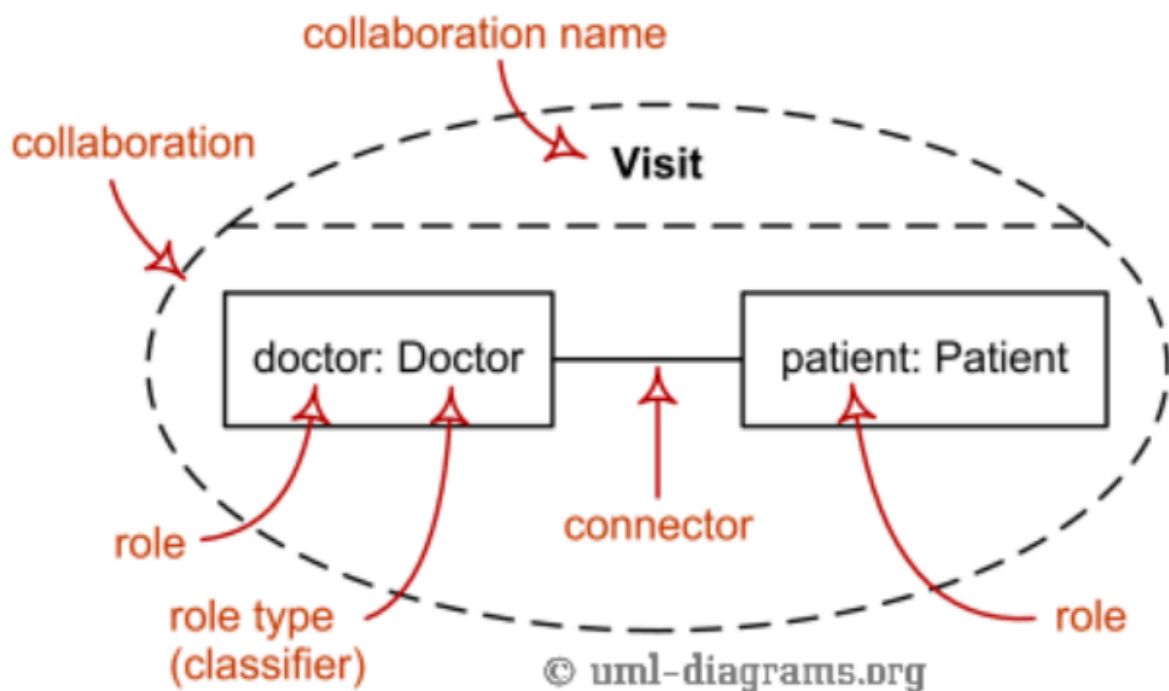**1.d**

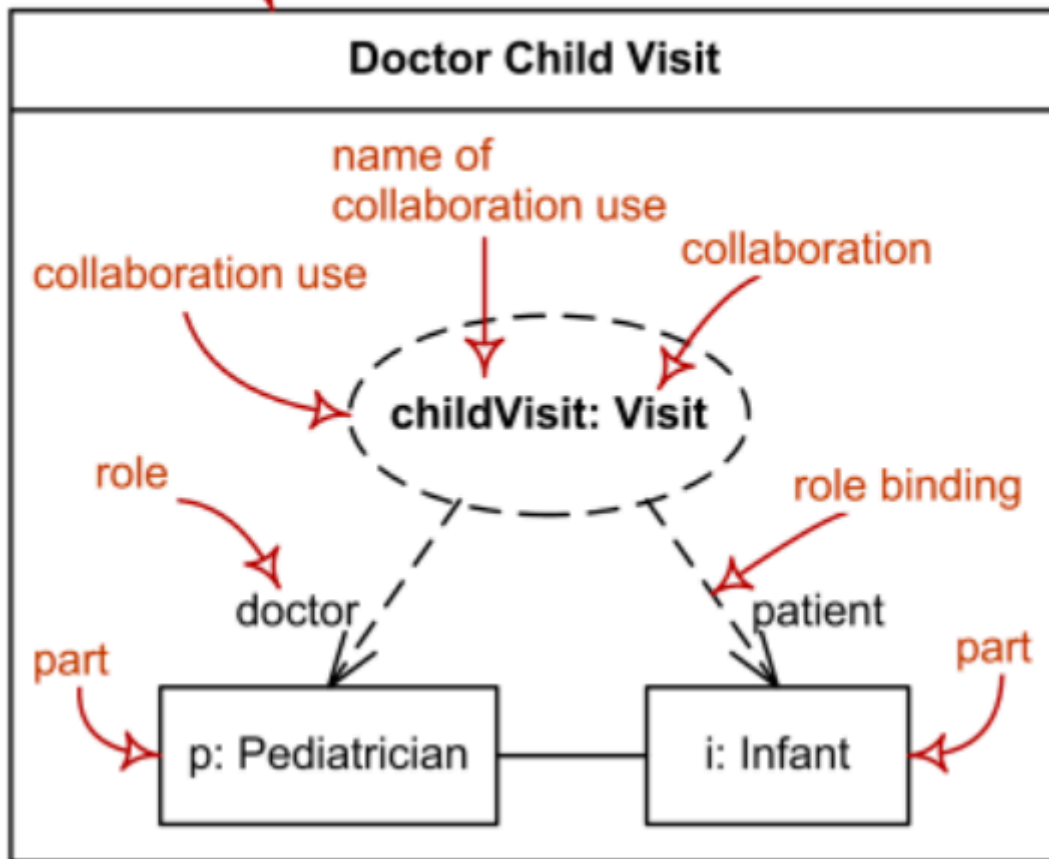Cooperation use - is a way to use collaborations. In first pic. create a collaboration. In the second one we use it by binding roles (attributes) inside collaboration.

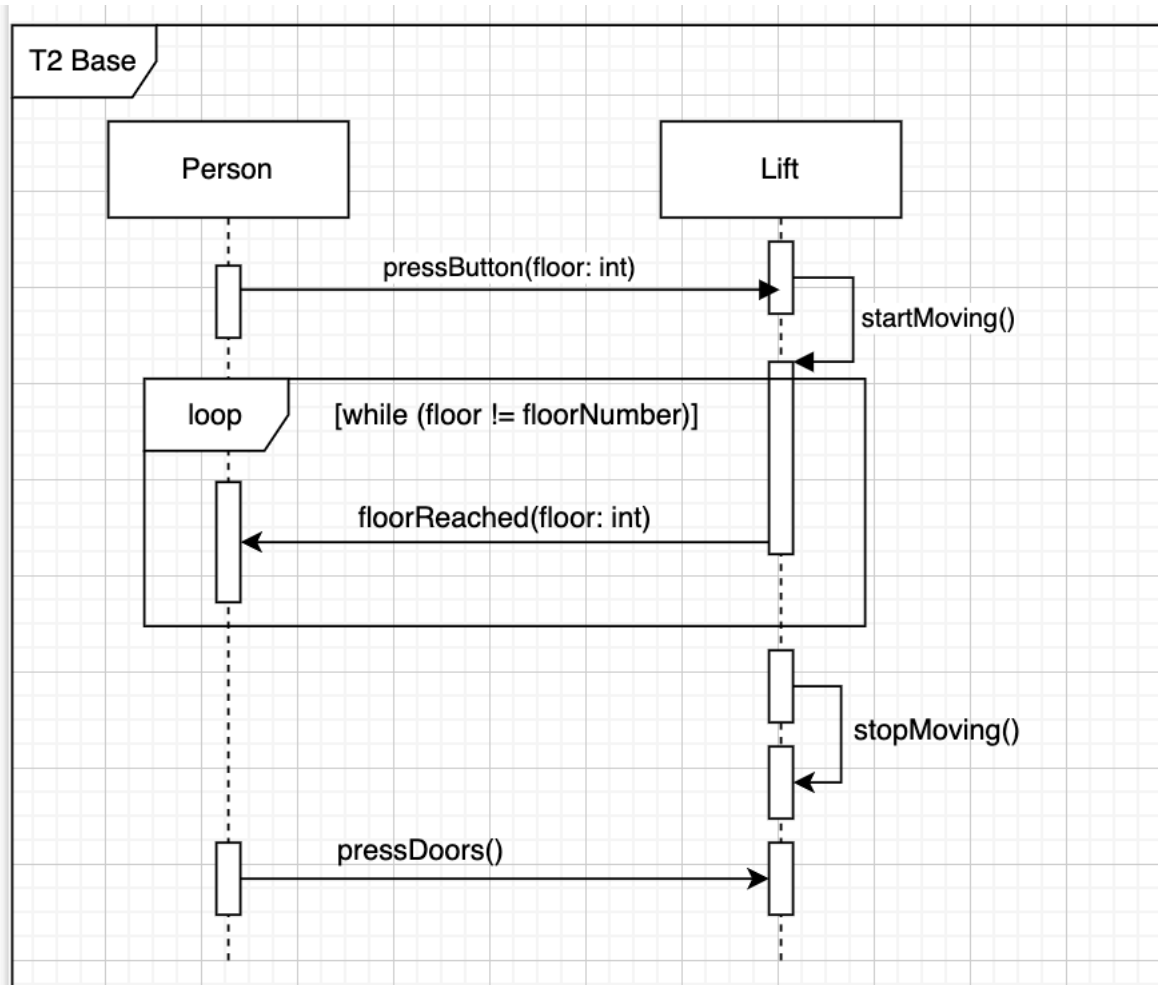structured class

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Doctor Child Visit

name of
collaboration use

collaboration

collaboration use

childVisit: Visit

role

role binding

doctor

patient

part

part

p: Pediatrician

i: Infant

Task 2.
Base diagram

Base diagram

Base diagram is a sequence diagram, that included entities: Person, Lift. The goal is a model of event when passanger interact with a lift.

Using Participants:

- Person: passenger that interact with system
- Lift: main system and machine that have actions for moving, take information about floors and pressed buttons of floors or doors.

When Person press a button with number of floor, he gives information to Lift about floor, that need to reach.

Lift starting moving and turn on loop cycle, while its will be broken by equals of floor and floor number from person. Lift gives information inside loop about current reached floor.
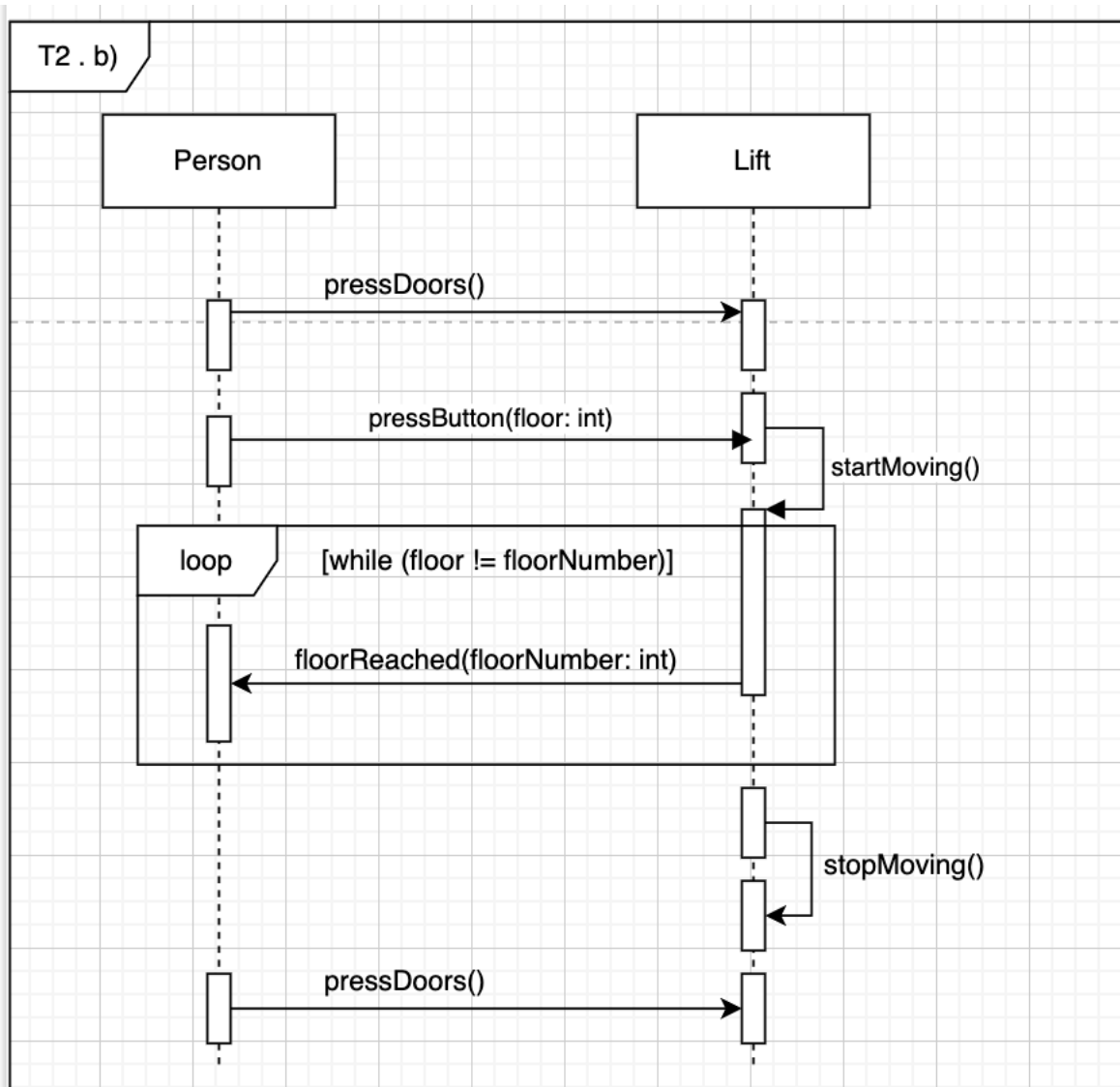
When floor have already reached, lift could stop.

Person can press button to open doors.

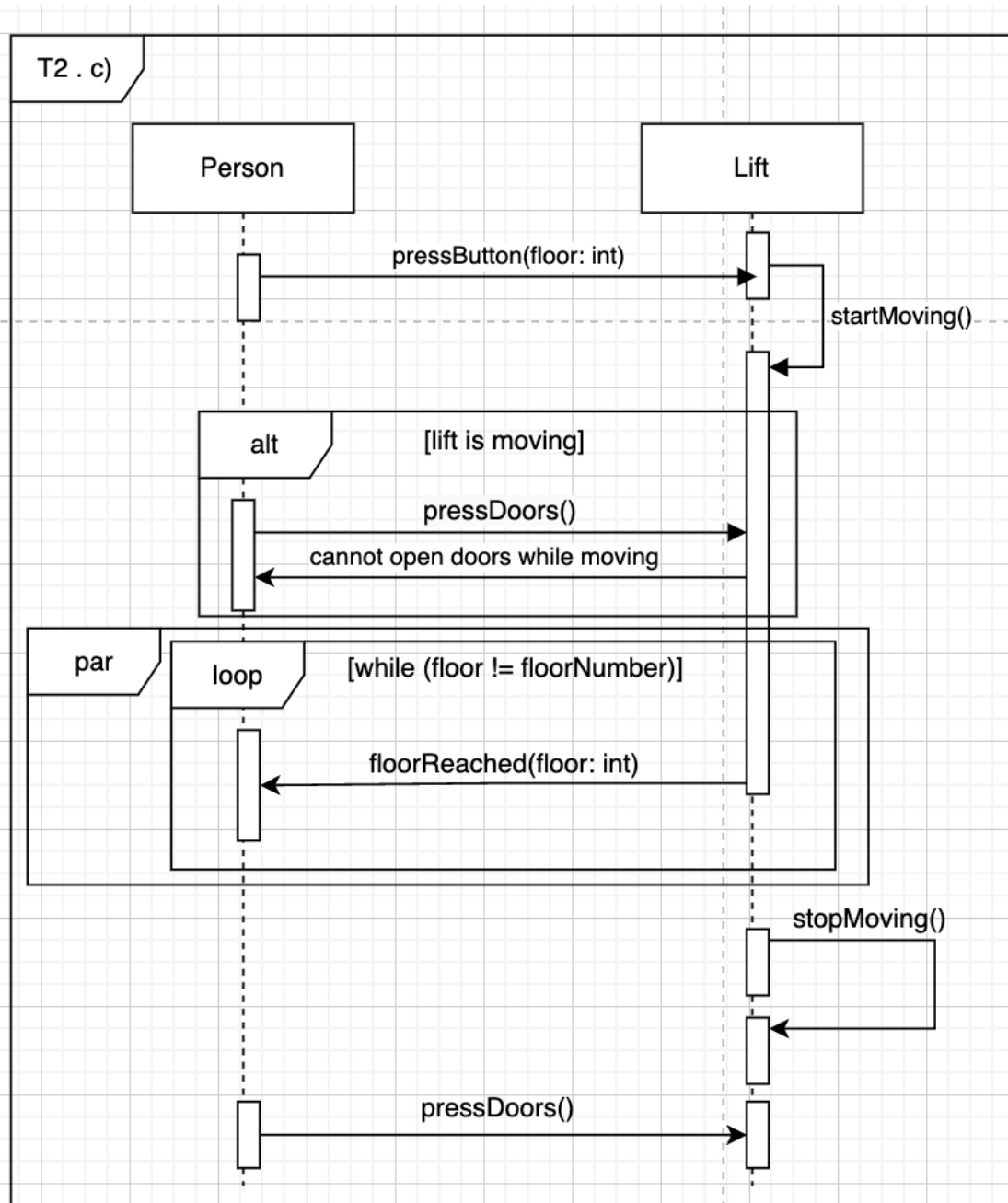**2.a**
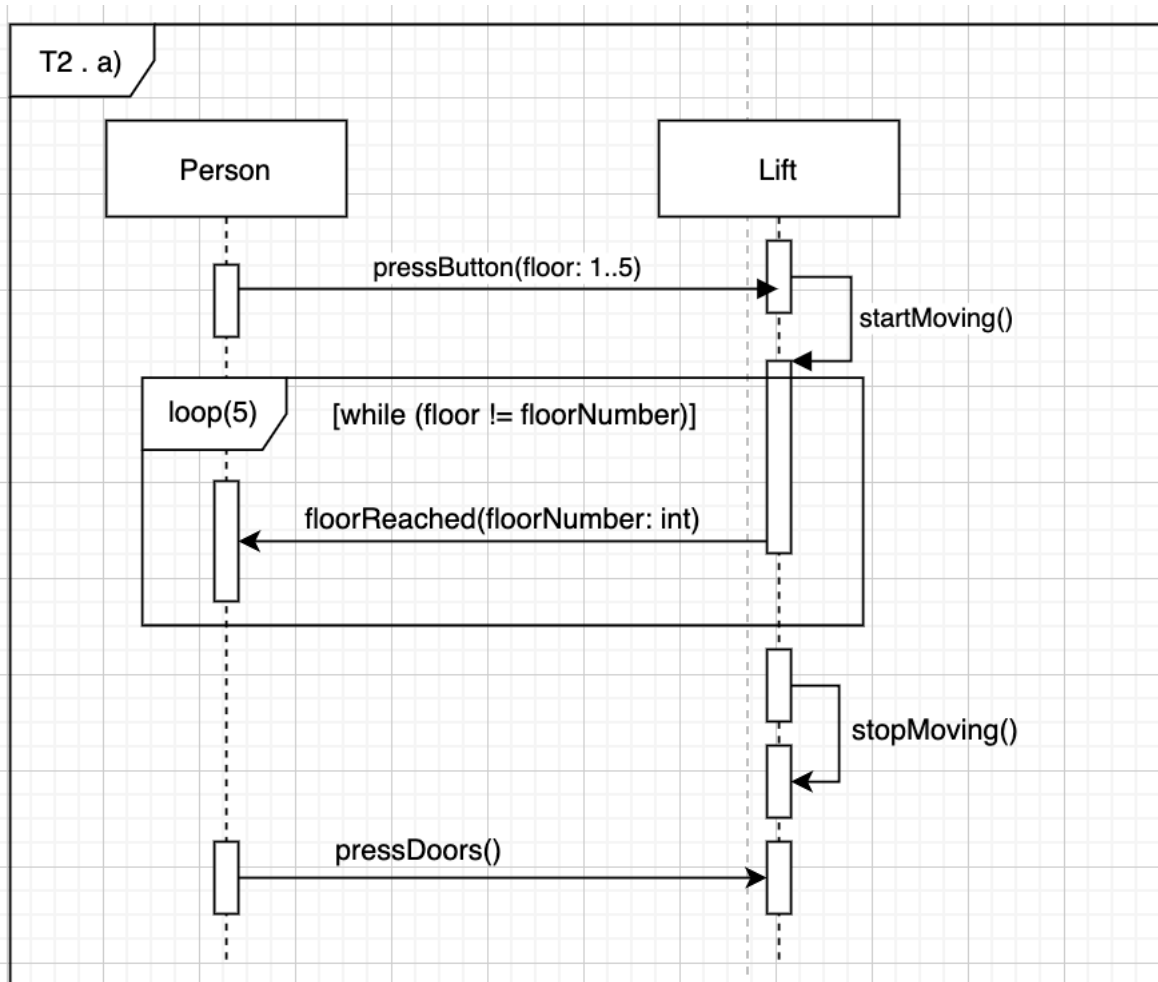
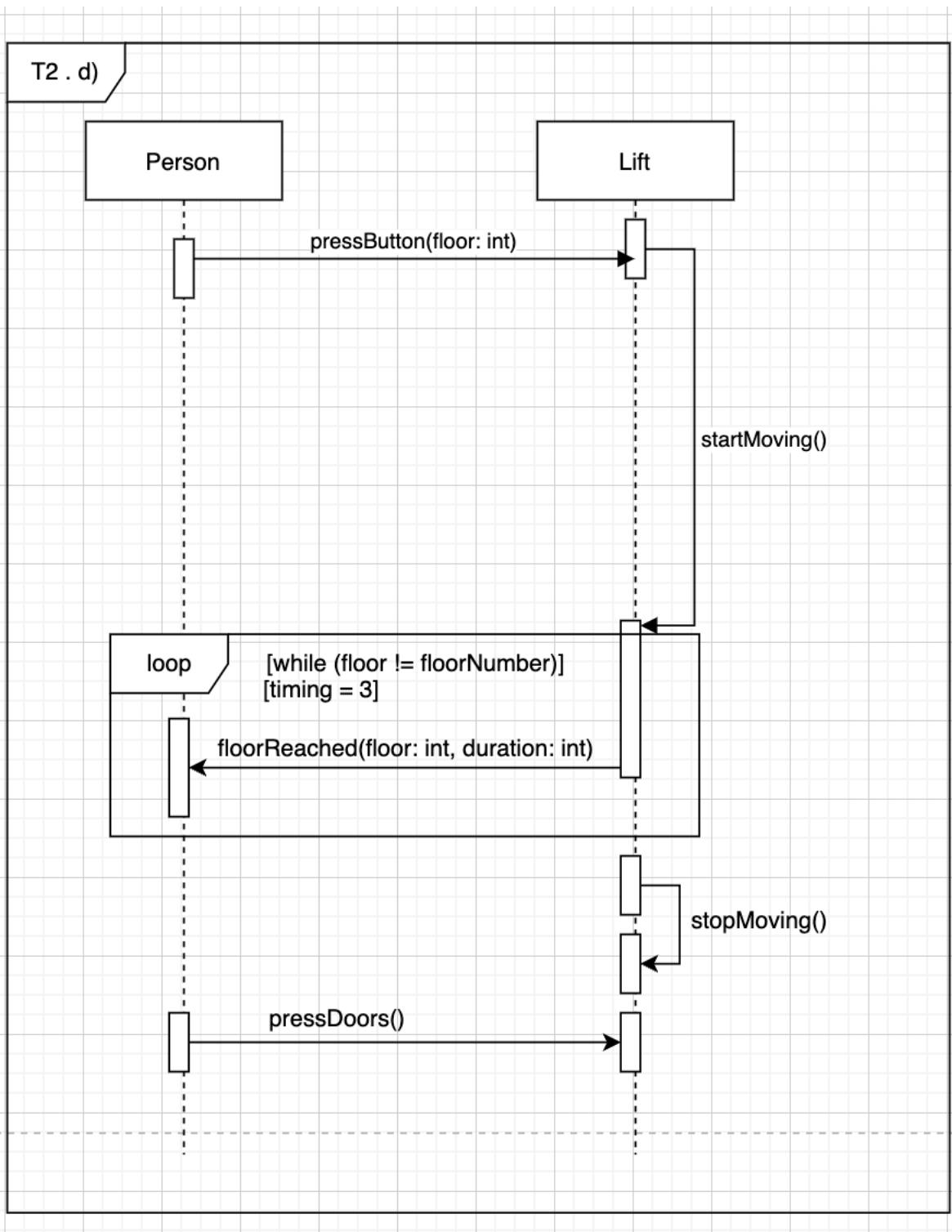Detailed model with loop, that reached from 1 floor to 5ᵗʰ.

2.b

Person can press Doors before lift start moving.

2.c

When person press Doors after lift starting moving, doors wouldn't open, because lift is moving.

2.d

```
T2 . d)

    ┌─────────┐                          ┌─────────┐
    │ Person  │                          │  Lift   │
    └─────────┘                          └─────────┘
         │        pressButton(floor: int)     │
         � ───────────────────────────────────▶▐
         │                                     ▐
                                               ▐ startMoving()
                                               ▐
                                               ▐◀──┐
    ┌ loop      [while (floor != floorNumber)] ▐───┘
    │           [timing = 3]                   ▐
    │       floorReached(floor: int, duration: int)
    │   ▐◀───────────────────────────────────▐
    └───────────────────────────────────────────
                                               ▐
                                               ▐ stopMoving()
                                               ▐◀──┐
                pressDoors()                   ▐───┘
         ▐────────────────────────────────────▶▐
```

Loop have a timing and duration time, that lift gives to person

2.e
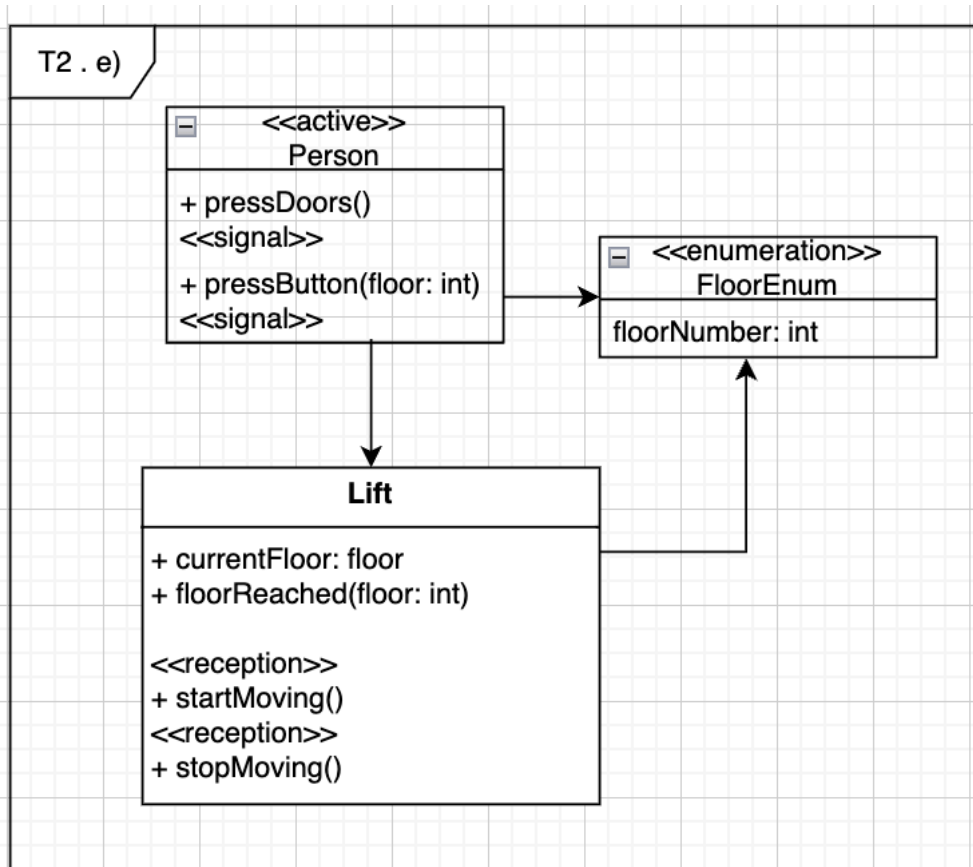
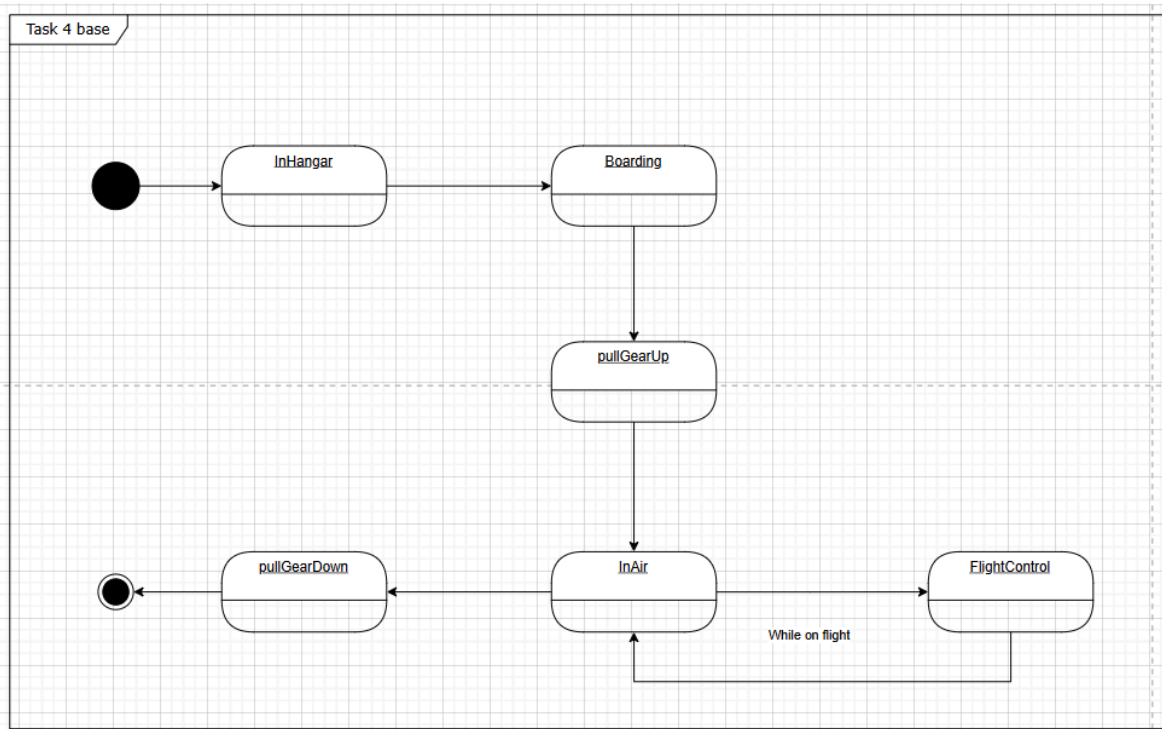Person is active class, that have signals press doors and press buttons with an integer parameter floor.

When person gives information about floor, its communicate with enumeration FloorEnum, that have integer floorNumber.
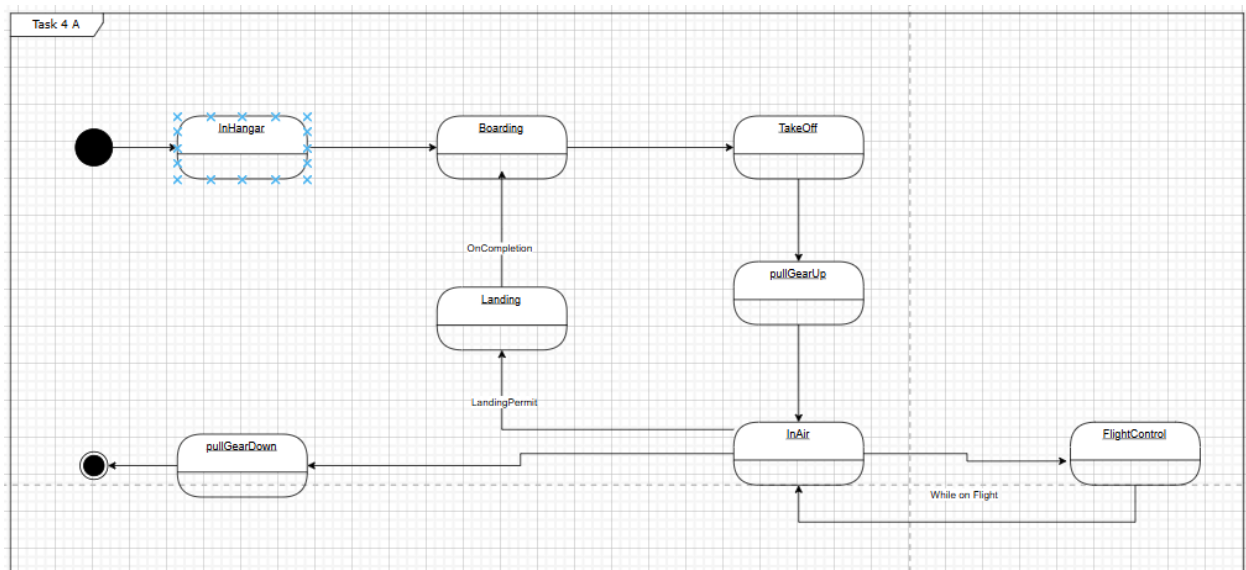
Person interacts with lift.

Lift have information about current floor and reached floor. Also Lift has receptions start moving and stop moving.
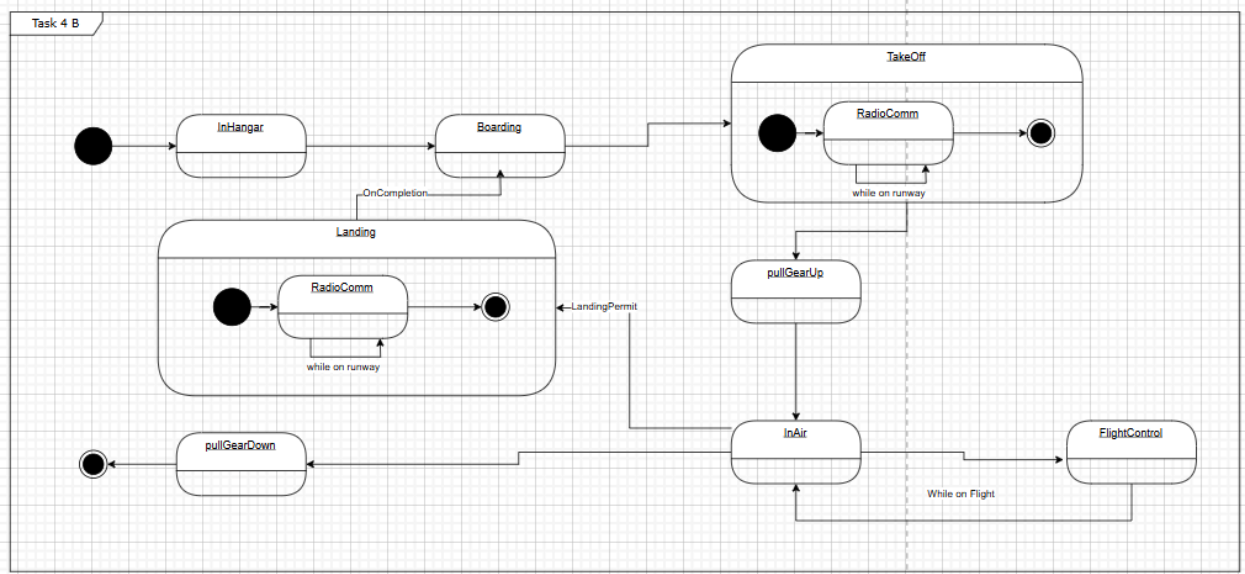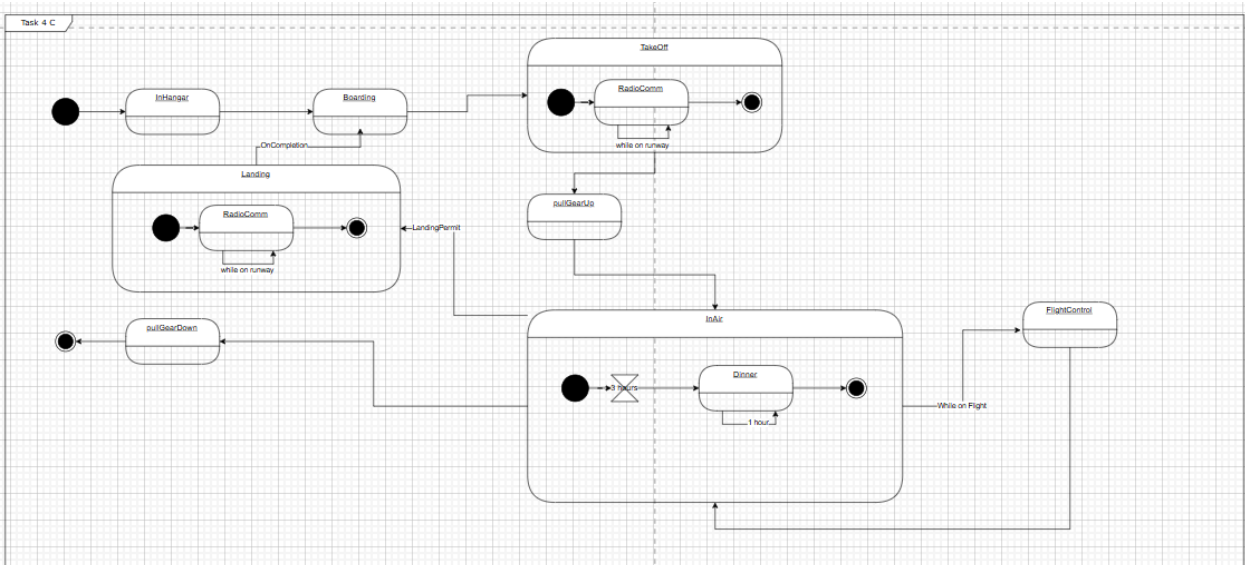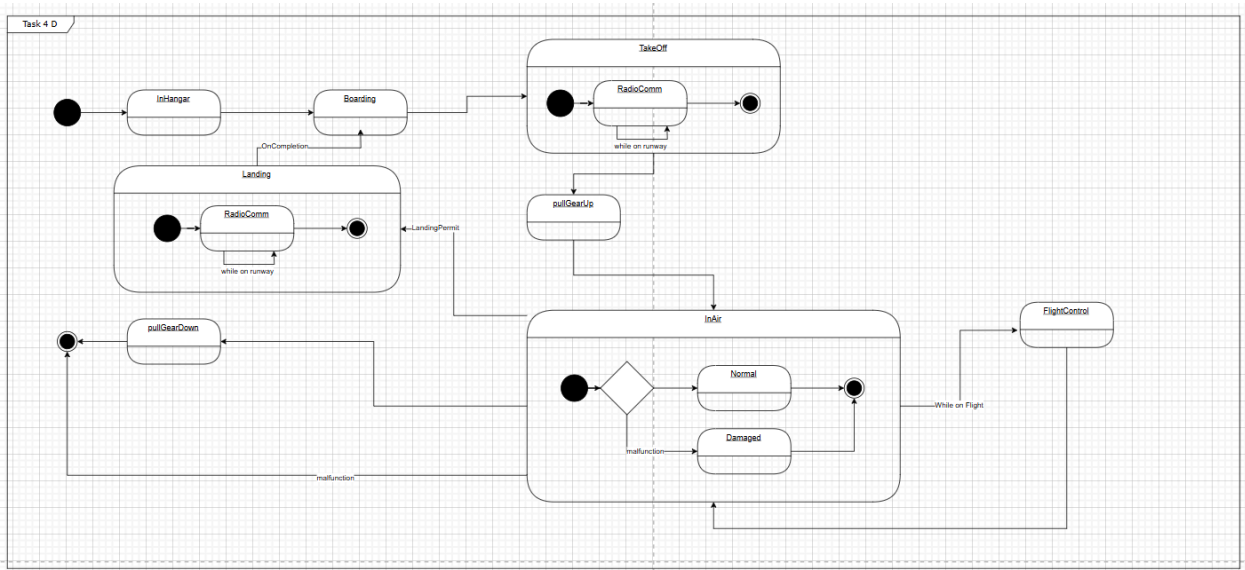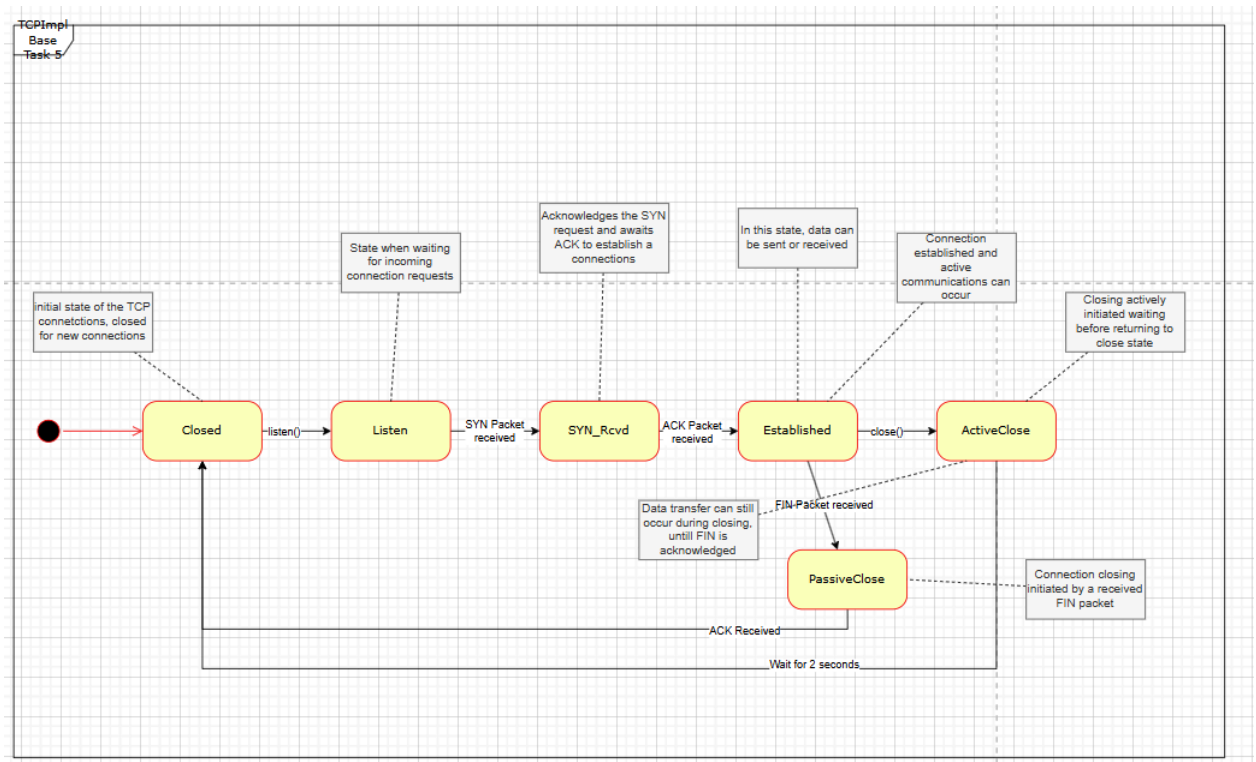
Task 4.

Base diagram

4.a

4.b

4.c

4.d

Task 5.

5.a

5.b

5.c

C Task 5

initial state of the TCP connetctions, closed for new connections

Acknowledges the SYN request and awaits ACK to establish a connections

In this state, data can be sent or received

Connection established and active communications can occur

Closing actively initiated waiting before returning to close state

ActiveOpen

Receive SYN+ACK / Send ACK

close()

connect() / Send SYN

Closed

listen()

SYN_Rcvd

ACK Packet received

Established

close() Send FIN

ActiveClose

SYN Packet received

Listen

Data transfer can still occur during closing, untill FIN is acknowledged

FIN Packet received/ Send ACK

close() / Send FIN

PassiveClose

Connection closing initiated by a received FIN packet

ACK Received

Wait for 2 seconds

State when waiting for incoming connection requests