[55 minutes]

Suppose you need to design the software that controls all elements of an elevator with the following requirements:

- The building where the elevator has to operate has 2 floors.
- At both floors there is a button outside the elevator that allows the user to request the elevator
- At both floors there is a display outside the elevator that shows the current floor number where the elevator is right now.
- Inside the elevator there is another display that shows the current floor number.
- Inside the elevator there is a menu that has 2 buttons: floor1 and floor2.
- There is also an elevator engine with 2 functions: go up and go down.
- It should be easy to reuse this software for other elevators in other buildings that might have more floors.

a. Draw the class diagram of your design. Make sure that your diagram shows all the important UML parts, and that it implements the appropriate design principles we studied in this course

b. Draw the sequence diagram that shows clearly how your design works. Assume the elevator is at the first floor when the sequence diagram starts. Make sure you show all important elements on the sequence diagram. Show the sequence diagram of the following user action:
    a. The user is at the second floor and presses the button outside the elevator. The elevator will now move up to the second floor
    b. The user enters the elevator at the second floor and selects floor1 on the menu inside the elevator. The elevator will now move down to the first floor

Draw the solution of this question in StarUML and **upload** your solution as a **JPG picture** (**only JPG pictures are accepted)** as solution to this question

Make sure you show all important parts of the UML diagrams.

You can upload multiple pictures, one for the class diagram, one for the sequence diagram.