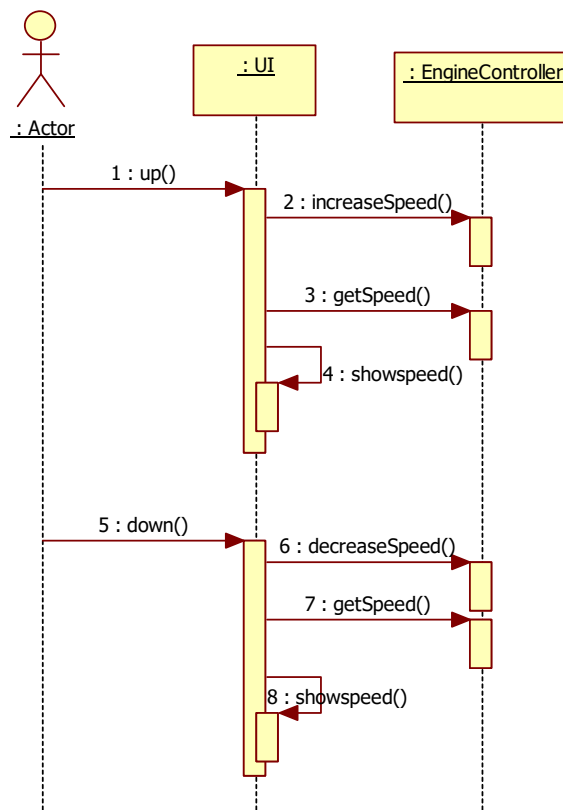


Suppose we need to design an application that controls an electric engine. The application has a User Interface(UI) with 2 buttons: an up button and a down button. The UI also shows the current speed of the electric engine. When you click the up button, the speed should go up with 10 rotations per second. If you click the down button, the speed should go down with 10 rotations per second.

Our first design was as follows:



Now we need to implement new requirements:

1. We also need an undo and a redo button on the UI that undo's (or redo's) previous action
2. If the electric engine rotates with less than 100 rotation per second (R/s), then when you click the up button, the speed should go up with 10 rotations per second. If you click the down button, the speed should go down with 10 rotations per second.
3. If the electric engine rotation is between 101 and 600 rotation per second (R/s), then when you click the up button, the speed should go up with 20 rotations per second. If you click the down button, the speed should go down with 20 rotations per second.

4. If the electric engine rotation is 601 or more rotation per second (R/s), then when you click the up button, the speed should go up with 30 rotations per second. If you click the down button, the speed should go down with 30 rotations per second.

It should be easy to add new behavior to our engine controller in terms of what the controller should do when you click the up or down button.

Redesign the application according to the best practices we learned in this course.

Draw a **sequence diagram** showing the following sequence:

1. Suppose the engine rotates at 595 rotations per second. Then we click the **up** button
2. Then we click the **down** button.
3. Then we click the **undo** button

Do not create (or upload) a class diagram. (you can quickly sketch a class diagram in StarUML if that helps you to answer this question)

**Make sure you upload the JPEG picture of your sequence diagram. In StarUML select File->Export Diagram As -> JPEG (or JPG). This question cannot be graded if you upload the StarUML mdj file**