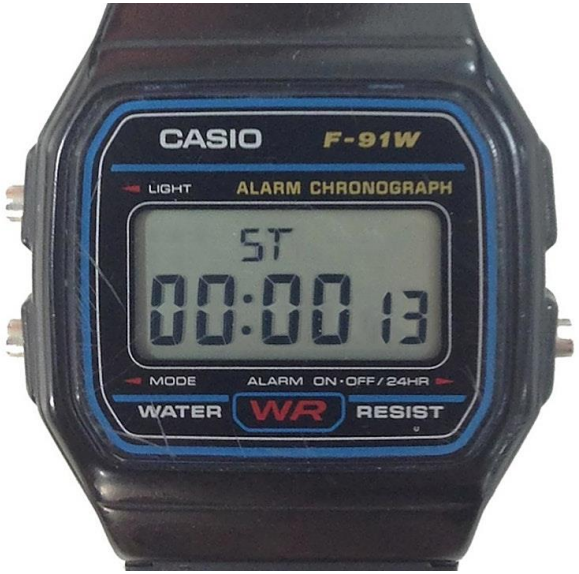
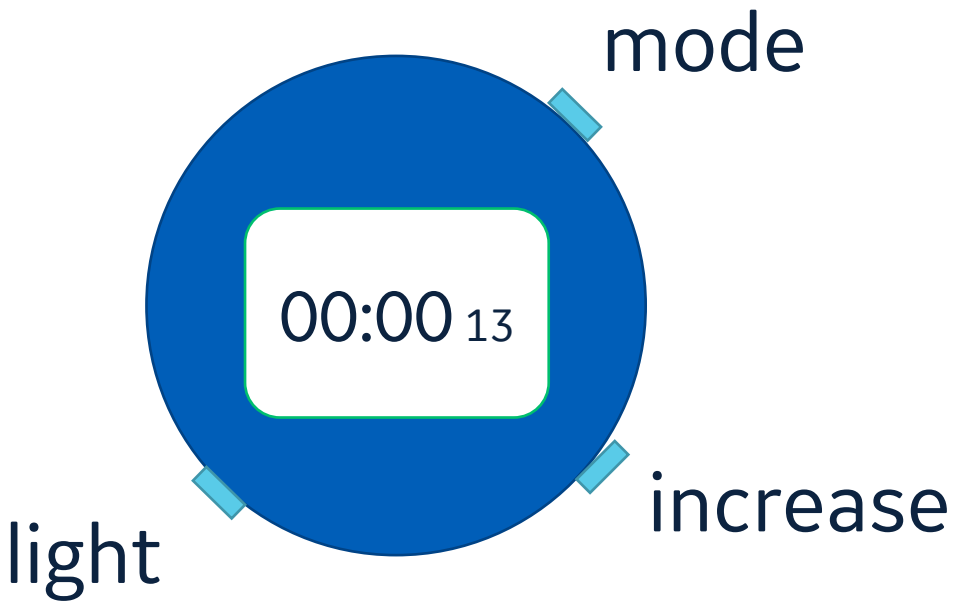
A - Create a watch that works as follows:

- Displays the current time
- A button “mode” allows to change time
- When pressing the “mode” button, the time is editable: the “increase” button adds **one hour**
- When pressing the “mode” button again, the “increase” button adds **one minute**
- When pressing the “mode” button a third time, the time is no more editable: the “increase” button does nothing
- The button “light” turns on the screen to be readable even at night

Tasks (2 hours recommended):

- Create a class diagram
- Implement the described workflows, with any language or tool





B – Additional features:

- Display multiple clocks in the page
- Each clock shall display a different time zone (ex: GMT+1, GMT+2…)
- Add a reset button to reinitialize a clock after using the edit button
- Add a button that dynamically creates and displays a new clock (extra bonus if you can choose the time zone before creating it)
- Add a button to change the display between 24h and AM/PM format
- Extend the class diagram

C – Watch animation

- Implement a set of classes to provide:
  - 2d vector/point coordinate
  - 3x3 matrix and functions associated to it:
    - Inverse
    - Multiply
    - Transform point/vector
  - Functions to create translation/rotation/scaling matrix
- Leverage this library to animate the watch position by combining a set of matrices:

The watch shall rotate on itself, scale up and down, and rotate around an arbitrary point (randomly defined at page load or from a user input field)

- Extend the class diagram

Things to look at:

- Design (both visual and code)
- Readability
- Edge cases