Info I | 05.05.2025 |

LAB ASSIGNMENT 3

DUE TO NEXT LAB

1. Download the *ClockDisplay* project.

2. Read the ClockDisplay code in order to see how it uses the `NumberDisplay` class that we spoke about in the lecture. Open up BlueJ and play with it to see how it works. Make sure you can explain in complete sentences how the **hours** increase.

3. Make your clock into an alarm clock by adding an alarm. You should be able to set the alarm time and turn the alarm on and off. When the clock reaches the alarm time, it should ring—writing "*Riiiiiiing*!" to the terminal is sufficient.

4. Now adapt the `ClockDisplay` to display the time American-style (i.e. 12-hour clock with the hours and minutes separated by a colon (":") and am / pm). You will have to include the Strings "am" or "pm" in the display! I strongly suggest researching how American time is kept before you start programming.

5. There are at least two ways in which you could have implemented the previous step—one keeps the time internally as a 24-hour clock and adapts the output. The other keeps the time internally as it is displayed. Whichever way you chose for the previous step, now implement the other in a new class. Reflect on differences.

6. (For the bored) Use the `MusicPlayer` from the `MusicOrganizer` project to play some music (or a ringing sound) instead of writing to the terminal.