Dear all,

Here are specifications of the first project:
1. Display on the LCD a clock – HH:MM:SS, the clock should be updated with timer1 interrupt (please see you previous task)
2. Each defined time (XXXX in seconds) you should save a measurement together with a time in array(s). You should save last 100 measurements
3. You should be able to change a time with push buttons:
- if there is no activity on push buttons the clock works normally and it is displayed (please see point 6.),
- if you touched first push button then you are activating interrupt attached to this pin and start a subroutine,
- with the same first button you can now change hours and second button should be used to change minutes,
- after 5 second of inactivity on buttons the clock should be saved and seconds should be zeroed and you should leave the subroutine
4. You should measure Voltage with analogRead function, please change the potentiometer value during measurement
5. Send all saved measurements (together with times) via serial interface at a predefined time (HH:MM:SS)
6. With third button you should be able to change if you display time or measured voltage

The project which will be send to me should contain:
- code
- documentation: code functionality description, UML activity diagram, detailed description of all connections (LCD, buttons, resistors) which are made on the simulator and screenshot from the working project, link to your design - share button in the simulator.

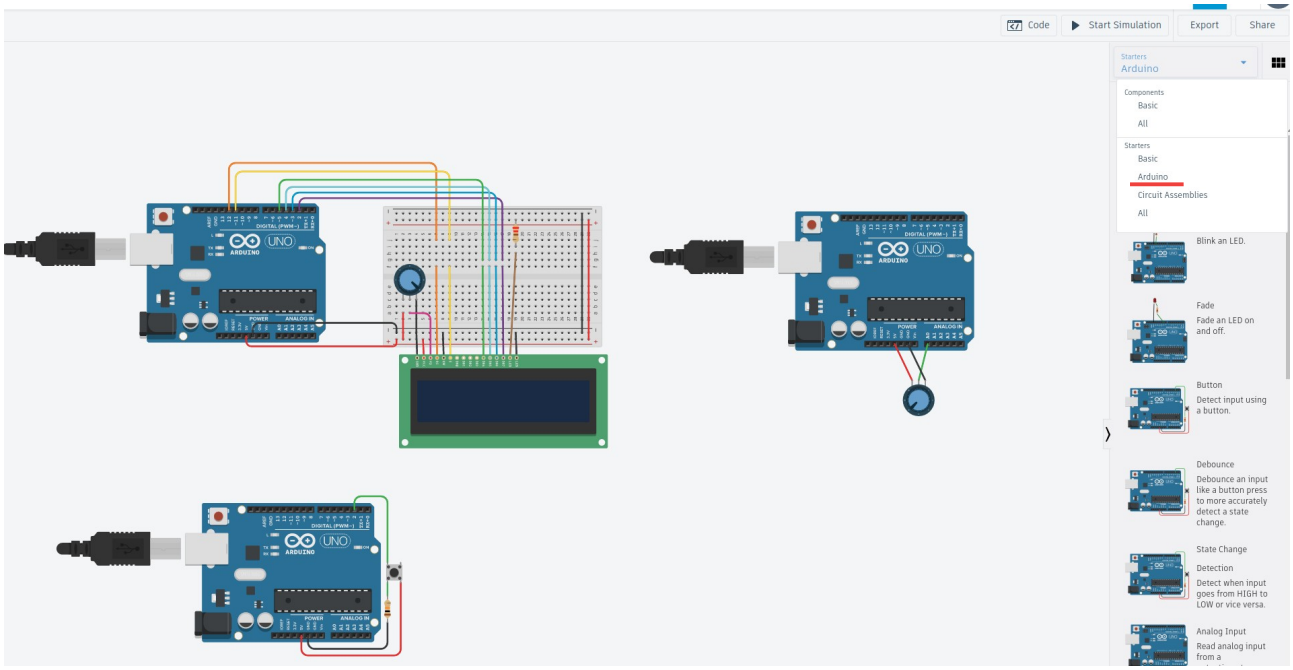

Fig.1 Examples of the required parts and code are already in place in the simulator. Needless to say, but please use only one Arduino

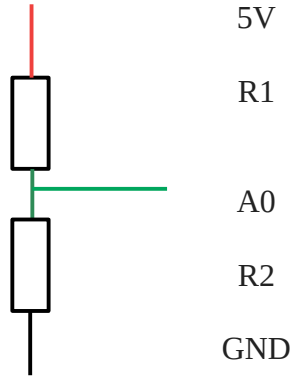

Fig.2 Equivalent circuit for the potentiometer – voltage divider. Please put an equation to the documentation which shows what voltage is on A0 depending on R1 and R2

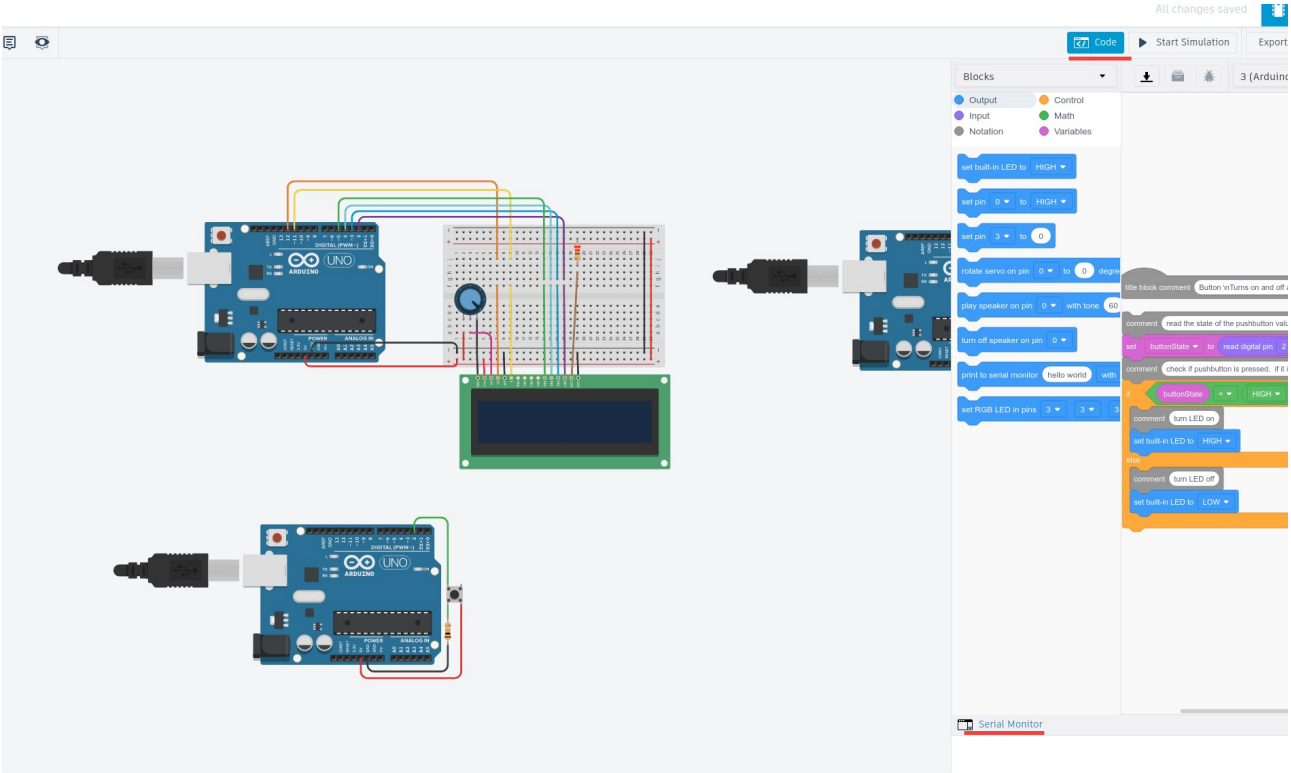

Fig.3 Serial monitor is under Code panel

Full project with documentation should be delivered on 9th of April, good luck.

Best regards,
Marek