Experiment Name: Automatic Light System using Luminance Sensor.

Equipment: Grove Luminance sensor, Grove LED (Yellow).

Theory & Procedure:

Arduinouno is an open-source platform used for creating interactive electronics projects. Arduinouno consists of both a programmable microcontroller and a piece of software, or IDE (Integrated Development Environment) that runs on your computer, used to write and upload computer code to the microcontroller board. Grove - Luminance Sensor detects the intensity of the ambient light on a surface area. It uses **APDS-9002** analog output ambient light photo sensor. This has responsively closer to human eye. This Luminance Sensor can be used in application which requires automatic light adjustment in residential or commercial lighting.

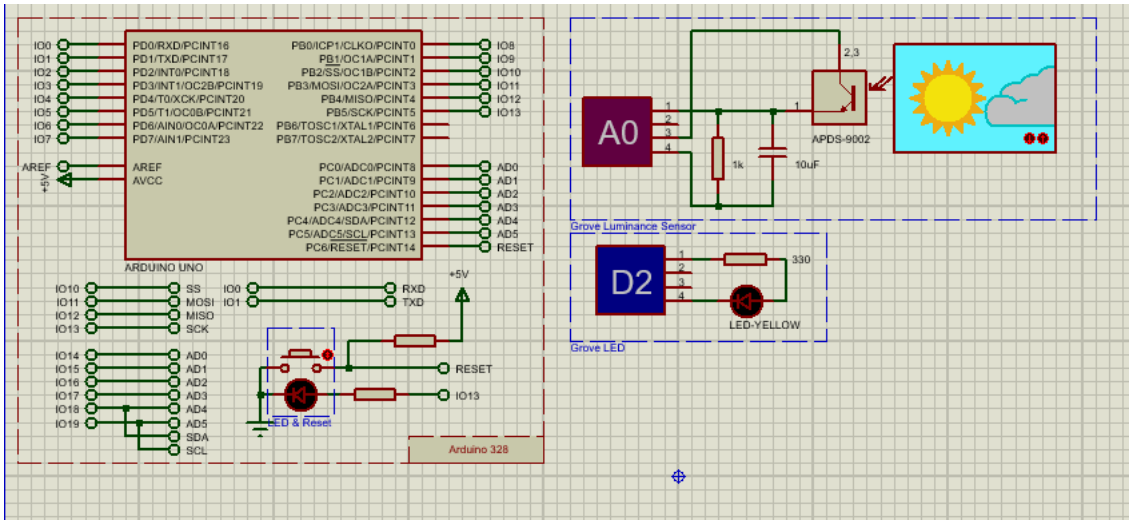
Procedure:

- First we open visual designer then right click on “Peripherals” and click Add Peripherals.
- Select Grove and add “Grove Luminance Sensor” and “Grove LED Light (Yellow)”.

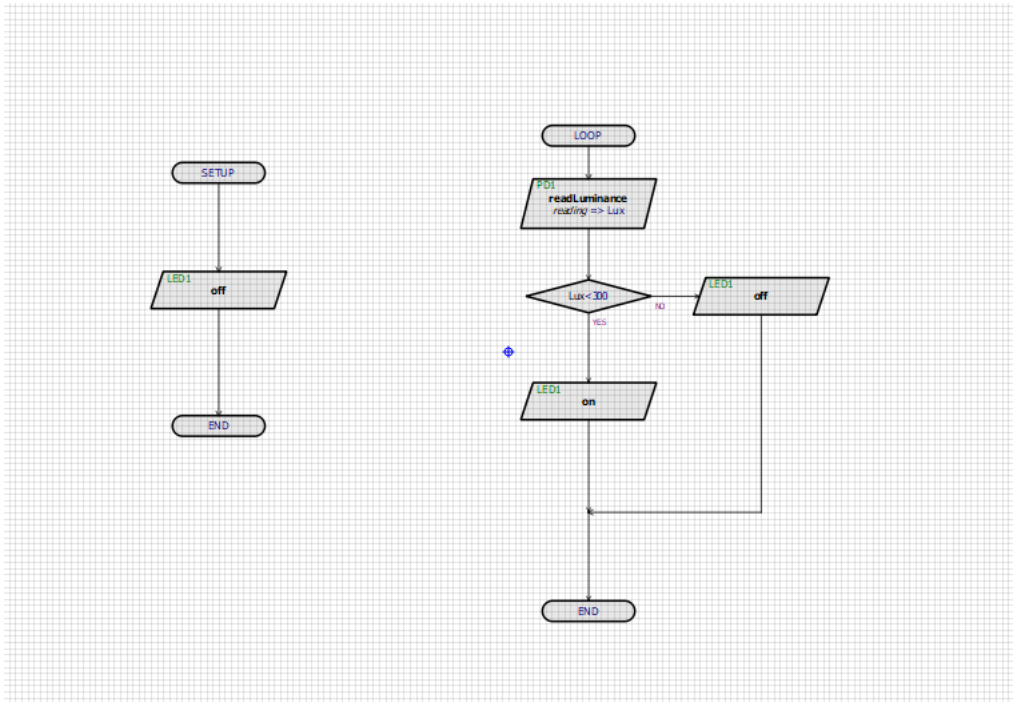
Conditions:

- If Luminance or brightness is Less than threshold value 300 (Lux<300) -> LED will turn ON.
- If Luminance or brightness is Greater than threshold value 300 (Lux>300) -> LED will turn OFF.

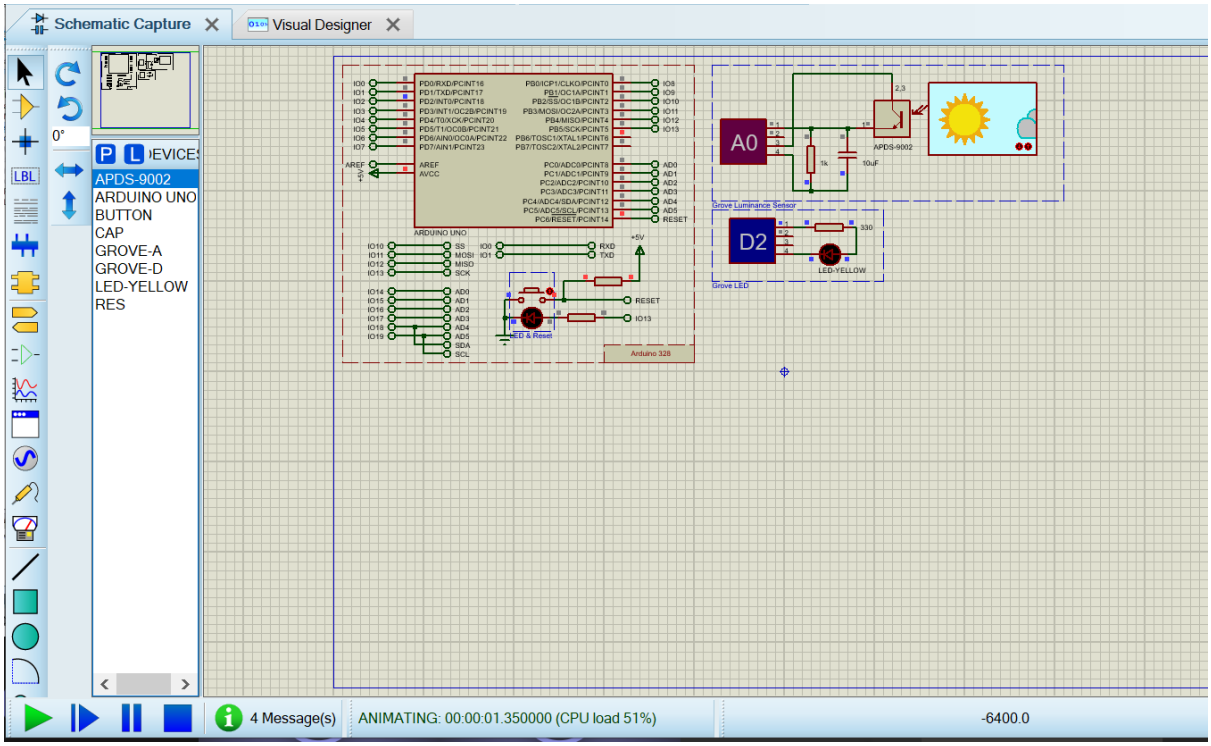
Schematic Capture:



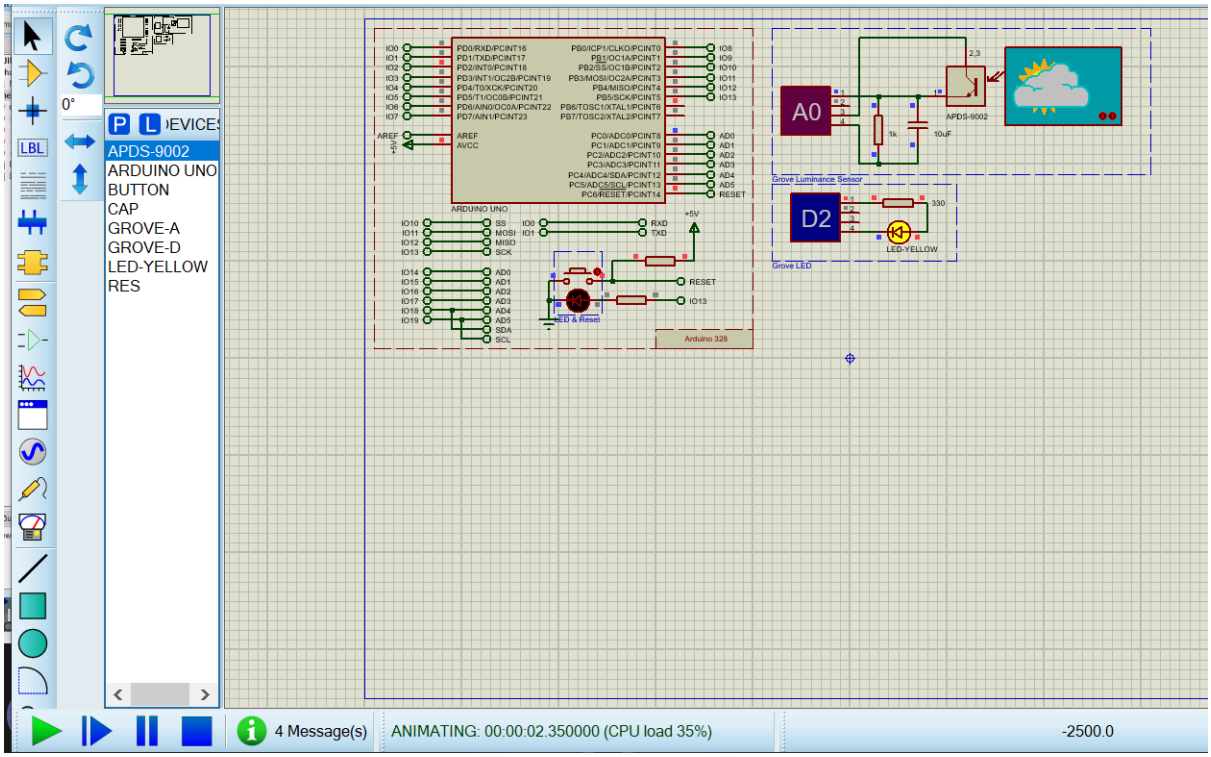
Visual Designer:



Result:



LED is OFF when luminance or brightness is greater than 300.



LED is ON when luminance or brightness is Less than 300.

References:

https://www.youtube.com/watch?v=q_momQnTvdk