Assignment 8 - Microcontroller Project - ABET

This Assignment aims at verifying and expanding, with design, simulations and measurements, your creativity and your knowledge and understanding of microcontrollers, including programming.

This is a <u>Project</u>: you must build your circuit and develop the code starting from specifications and constraints.

Please document each step with snapshots, pictures, and your observations. Also, please include the code and a short video to demonstrate proper operation.

Plan (explaining the use of the adopted tools and techniques), design and build a Day/Night Sensor Traffic Light *(ABET PI-71,PI-72,PI-73)*:
- during the day: the red/yellow/green traffic lights operate according to the UK sequence
    - search on the web for the sequence
    - sole red and sole green duration: 7 seconds
    - sole yellow and red-yellow duration: 1 second
- during the night: yellow blinking every two seconds (red and green off)
- an additional blue led indicates daylight
- an additional white led indicates night

Recommended material:
- microcontroller with programming software
- photoresistor
- one red led
- one yellow led
- one green led
- one white led
- one blue led
- resistors as needed to properly bias the photoresistor and leds