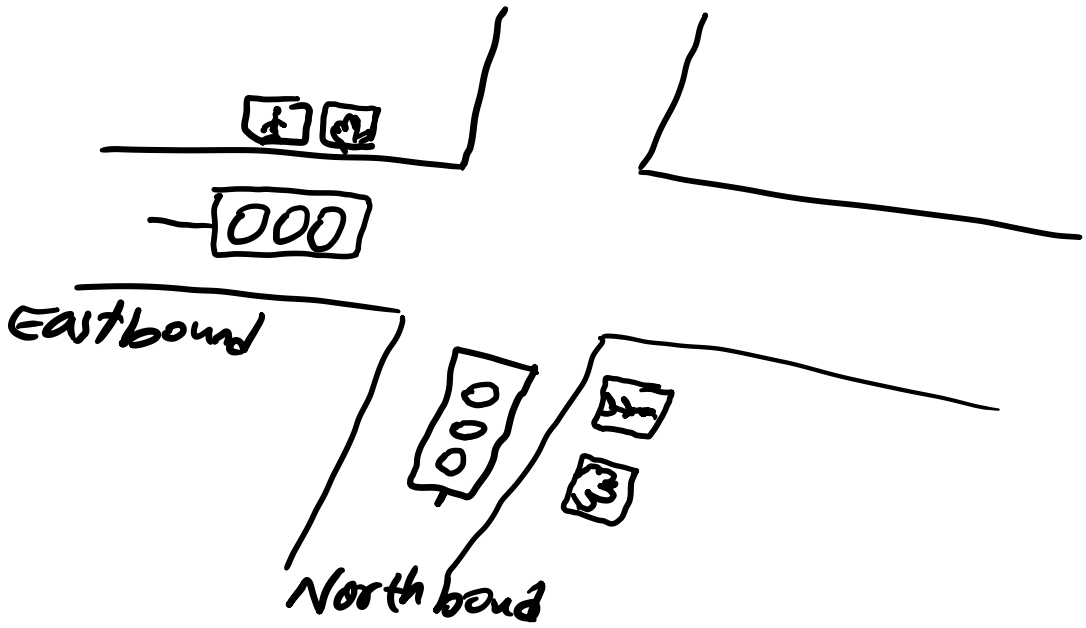
Traffic Signal Arduino Challenge

Some Hints:

- For every LED, there should be one resistor. The power should go through the resister in to LEDS
- The longer leg of LED is the positive one
- It is easier to complete the task in the order they are given
- Read the problem completely before you start with hands-on activities

Problem statement: You need to design and time traffic lights in a two-way street: Northbound and East Bound. There are also two pedestrian lights.



Parts needed: LEDs (3 Red, 2 Yellow, 2 Green, and 2 White

Task 1 (20 points)

Wire three LEDs representing the traffic light on the Northbound side and time them according to the timing shown in Figure 1.

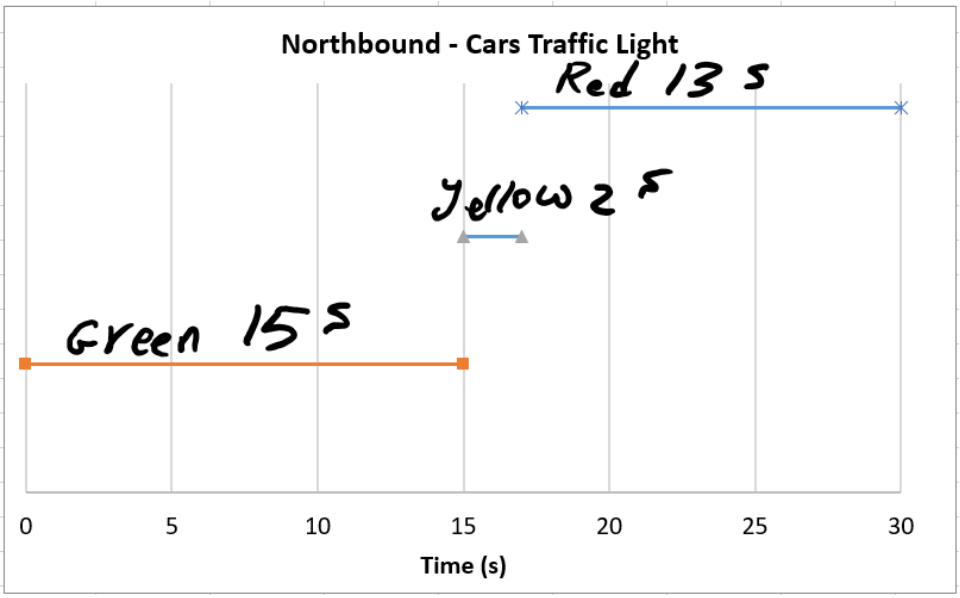


Figure 1: Timing of traffic light on Northbound

Task 2 (20 points)

Wire two extra LEDs representing the pedestrian light on the Northbound side. Following the timing shown in Figure 2. Remember that traffic light and pedestrian light should be synchronized

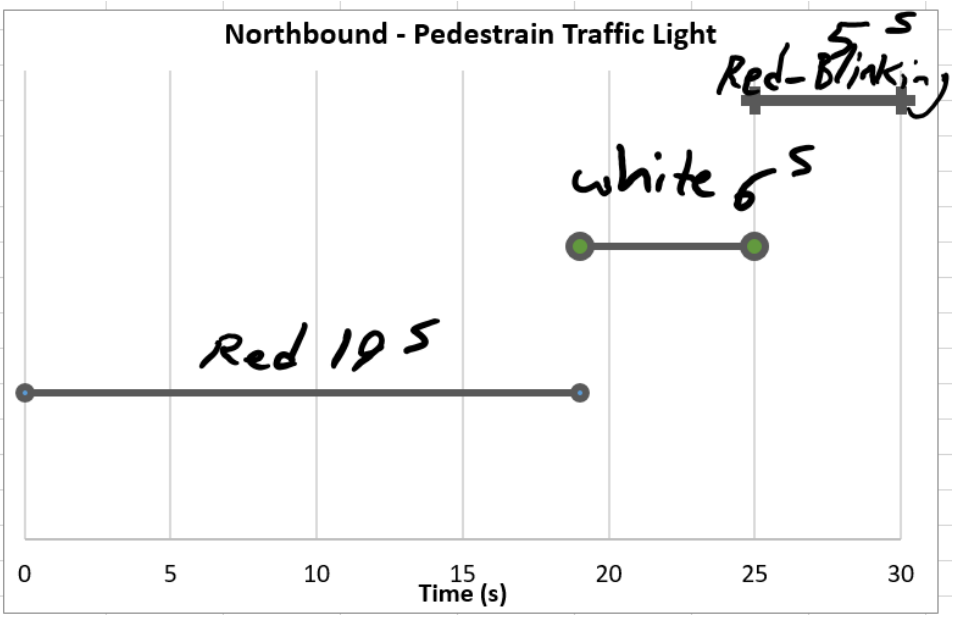


Figure 2: Timing of pedestrian light on Northbound

Task 3 (20 points)

Wire three LEDs representing the traffic light on the Eastbound side and time them according to the timing shown in Figure 3. Remember that both traffic lights should be synchronized.

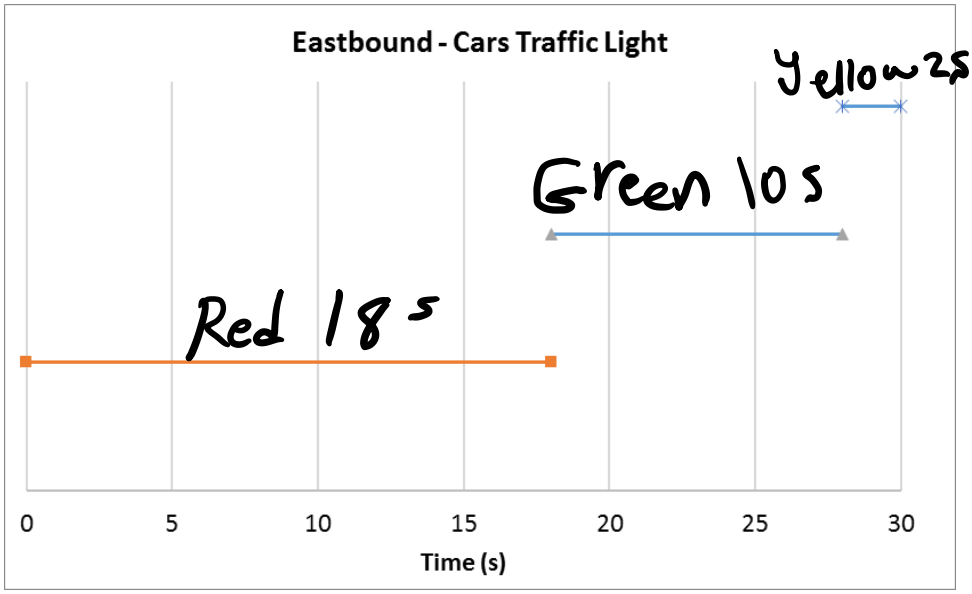


Figure 3: Timing of traffic light on Northbound

Task 4 (20 points)

Wire two extra LEDs representing the pedestrian light on the Eastbound side following the timing shown in Figure 4. Remember that traffic light and pedestrian light should be synchronized

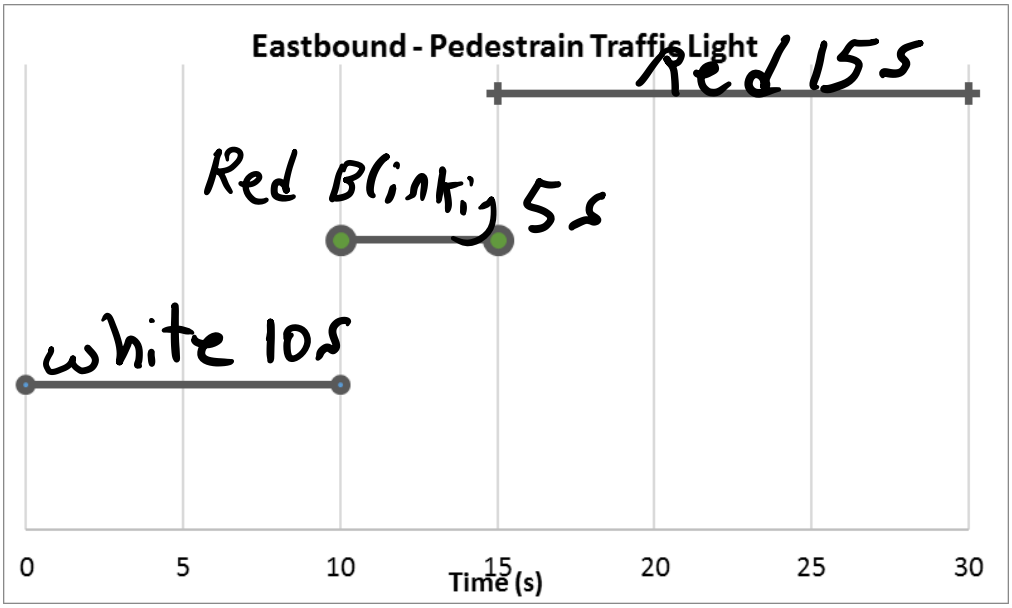


Figure 4: Timing of pedestrian light on Eastbound