

Simple Arduino Traffic Lights

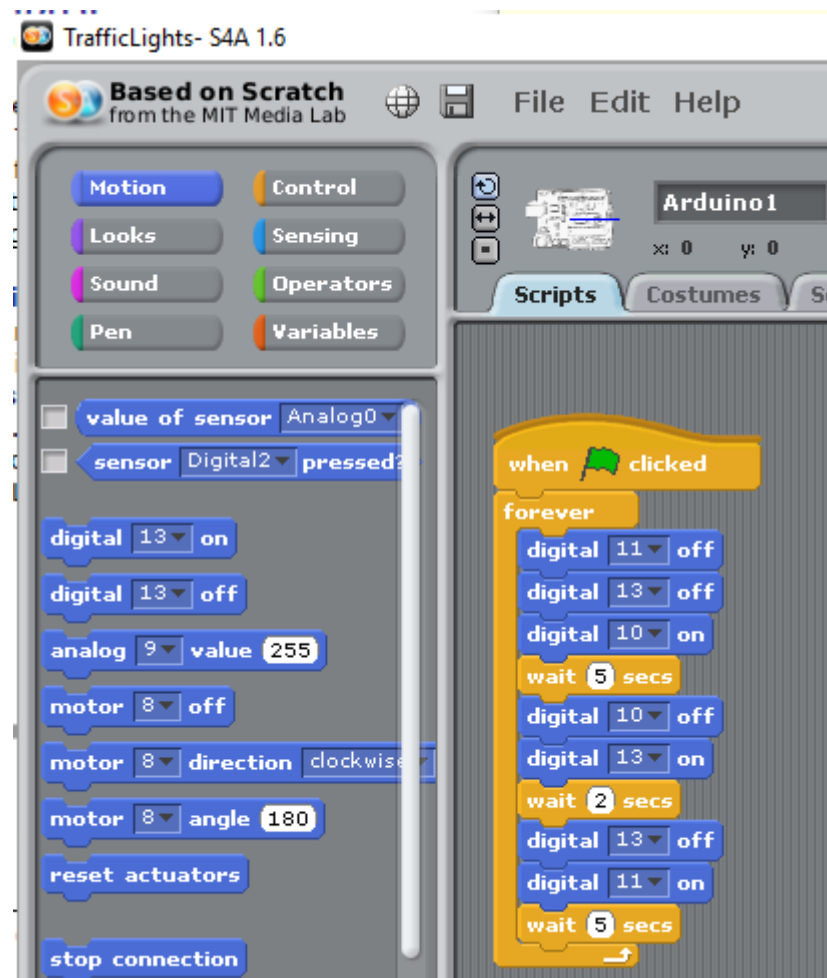
For the Gigo S4A Programming Bricks

<https://www.gigotoys.com/en/products/1247r/>

We make use of the 3 coloured LEDs of the **Gigo Maker Control Box**.

The S4A code for the traffic lights is quite simple.

When the program starts (green flag) we switch off all leds except the **red** light (**D10**) that is on for 5 secs. Then only the **orange** light (**D13**) is on for the next 2 secs and finally the **green** led (**D11**) is on for the next 5 secs. This process repeats forever.



Traffic Lights with a Pedestrian button

We wish to add a pedestrian button to the above scenario. When the green traffic light is on and vehicles moving on the road, a pedestrian can press the button to cross the road and immediately the red traffic light will light to stop the traffic.

Now additionally we make use of the **Button1 (D2)** and of the **Buzzer (A9)** of the **Gigo Maker Control Box**.

Since there are no interrupts in S4A we make use of the broadcast messages. The code follows. Basically when in traffic mode (green led D11 is on) then every 1 second a check is made if the pedestrian button (sensor Digital2) has been pressed. If this is the case we first make a sound with the beeper (analog 9 value 20) to alert the pedestrian and then we broadcast message "Pedestrian" so that the right hand side scenario executes to stop the traffic immediately. Finally using the broadcast message "start" the main procedure resumes.

```
when clicked
  broadcast start

when I receive start
  forever
    digital 11 off
    digital 13 off
    digital 10 on
    wait 5 secs
    digital 10 off
    digital 13 on
    wait 2 secs
    digital 13 off
    digital 11 on
    repeat 7
      if sensor Digital2 pressed?
        analog 9 value 20
        broadcast Pedestrian
        wait 1 secs
        analog 9 value 0
        stop script
    wait 1 secs

when I receive Pedestrian
  digital 11 off
  digital 13 off
  digital 10 on
  wait 5 secs
  digital 10 off
  digital 13 on
  wait 2 secs
  digital 13 off
  digital 11 on
  wait 7 secs
  broadcast start
```

YouTube: <https://www.youtube.com/watch?v=Xc68AaTT1ks>

