LED PROJECT

TRAFFIC LIGHTS

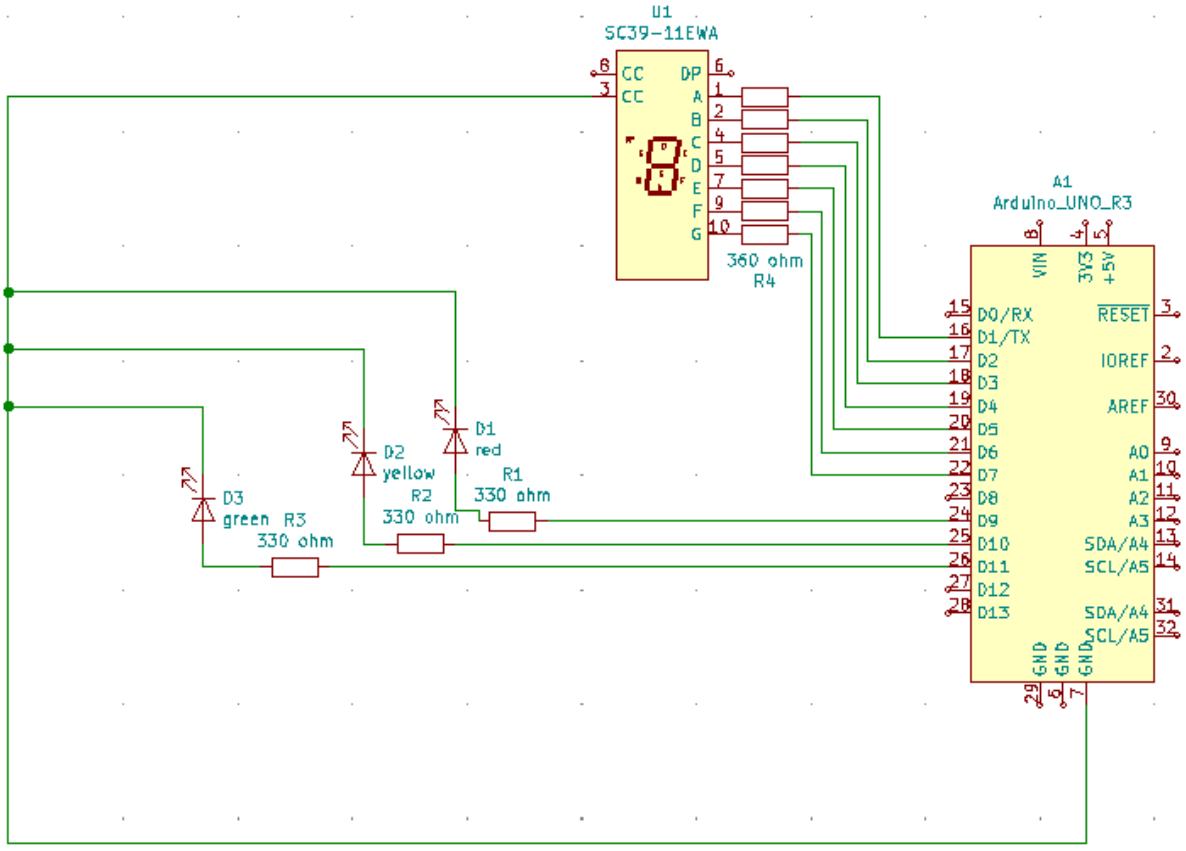
Introduction:

Traffic lights, traffic signals, stoplights or robots are signalling devices positioned at road intersections, pedestrian crossings, and other locations to control flows of traffic.

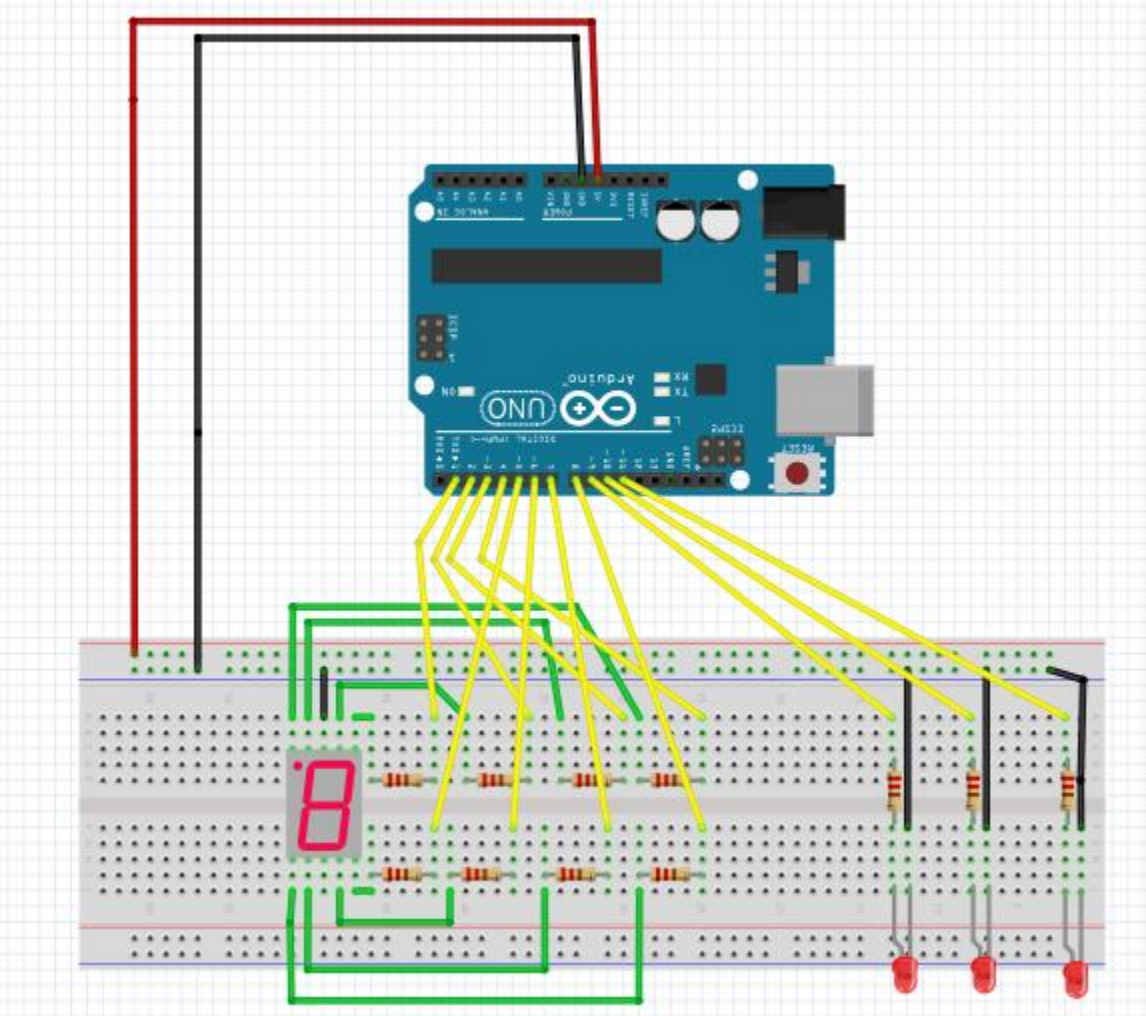
Components:

i. LED lights (red, yellow and green)
ii. Seven segment
iii. Resistors (x3) 330 ohms for the LED's
iv. Resistor (x8) 360 ohms for the Seven segment
v. Jumper wires (male to male) x17
vi. Bread board
vii. Arduino board

Schematic:



Breadboard connection circuit:



Code:

```
int a=1,b=2,c=3,d=5,e=6,f=7,g=8, dd=4;
int COUNT;
int red=9,yellow=10,green=11;
void setup()
{
  pinMode(red,OUTPUT);
  pinMode(yellow,OUTPUT);
  pinMode(green,OUTPUT);
  pinMode(a,OUTPUT);
```

```
  pinMode(b,OUTPUT);
  pinMode(c,OUTPUT);
  pinMode(d,OUTPUT);
  pinMode(e,OUTPUT);
  pinMode(f,OUTPUT);
  pinMode(g,OUTPUT);
}

void loop()
{
 digitalWrite(red,0);
 digitalWrite(yellow,0);
 digitalWrite(green,0);


 digitalWrite(red,255);
 timer(9);


digitalWrite(red,0);
digitalWrite(yellow,255);
 timer(3);

 digitalWrite(yellow,0);
 digitalWrite(green,255);
 timer(9);
```

```
digitalWrite(green,0);
digitalWrite(yellow,255);
 timer(3);

   digitalWrite(yellow,0);
}

void timer(int nu)
 {
  for(COUNT=nu;COUNT>=0;COUNT--)
   {

    switch (COUNT)
            {

            case 0://when count value is zero show”0” on disp
            digitalWrite(a, LOW);
            digitalWrite(b, LOW);
            digitalWrite(c, LOW);
            digitalWrite(d, LOW);
            digitalWrite(e, LOW);
            digitalWrite(f, LOW);
            delay(1000);
            break;

            case 1:// when count value is 1 show”1” on disp
```

```
digitalWrite(a, LOW);
digitalWrite(b, HIGH);
digitalWrite(c, HIGH);
digitalWrite(d, LOW);
digitalWrite(e, LOW);
digitalWrite(f, LOW);
digitalWrite(g, 0);
delay(1000);
break;

case 2:// when count value is 2 show”2” on disp
digitalWrite(a, HIGH);
digitalWrite(b, HIGH);
digitalWrite(c, LOW);
digitalWrite(d, HIGH);
digitalWrite(e, HIGH);
digitalWrite(f, LOW);
digitalWrite(g,1);
delay(1000);
break;

case 3:// when count value is 3 show”3” on disp
digitalWrite(a, HIGH);
digitalWrite(b, HIGH);
digitalWrite(c, HIGH);
digitalWrite(d, HIGH);
digitalWrite(e, LOW);
```

```
digitalWrite(f, LOW);
digitalWrite(g, 1);
delay(1000);
break;

case 4:// when count value is 4 show”4” on disp
digitalWrite(a, LOW);
digitalWrite(b, HIGH);
digitalWrite(c, HIGH);
digitalWrite(d, LOW);
digitalWrite(e, LOW);
digitalWrite(f, HIGH);
digitalWrite(g, 1);
delay(1000);
break;

case 5:// when count value is 5 show”5” on disp
digitalWrite(a, HIGH);
digitalWrite(b, LOW);
digitalWrite(c,HIGH);
digitalWrite(d, HIGH);
digitalWrite(e, LOW);
digitalWrite(f, HIGH);
digitalWrite(g, 1);
delay(1000);
break;
```

```
  case 6:// when count value is 6 show”6” on disp
digitalWrite(a, HIGH);
digitalWrite(b, LOW);
digitalWrite(c,HIGH);
digitalWrite(d, HIGH);
digitalWrite(e, HIGH);
digitalWrite(f, HIGH);
digitalWrite(g, 1);
delay(1000);
break;

   case 7:// when count value is 7 show”7” on disp
digitalWrite(a, HIGH);
digitalWrite(b, HIGH);
digitalWrite(c,HIGH);
digitalWrite(d, LOW);
digitalWrite(e, LOW);
digitalWrite(f, LOW);
digitalWrite(g, 0);
delay(1000);
break;

  case 8:// when count value is 8 show”8” on disp
digitalWrite(a, HIGH);
digitalWrite(b, HIGH);
digitalWrite(c,HIGH);
digitalWrite(d, HIGH);
```

```
        digitalWrite(e, HIGH);
        digitalWrite(f, HIGH);
        digitalWrite(g, 1);
        delay(1000);
        break;

         case 9:// when count value is 9 show”9” on disp
        digitalWrite(a, HIGH);
        digitalWrite(b, HIGH);
        digitalWrite(c,HIGH);
        digitalWrite(d, LOW);
        digitalWrite(e, LOW);
        digitalWrite(f, HIGH);
        digitalWrite(g, 1);
        delay(1000);
        break;
        }
    }
}
```