Python Program for Animation of LED

Note : Please change the “com” port as per your Arduino board

```
import turtle as t
import serial

s = serial.Serial("com5",baudrate = 9600, timeout=0.5)

w = t.Screen()
w.bgcolor("black")

t1 = t.Turtle()
t1.color("white")

r_t = t.Turtle()
g_t = t.Turtle()
b_t = t.Turtle()

r_w = t.Turtle()
g_w = t.Turtle()
b_w = t.Turtle()

r_t.lt(90)
g_t.lt(90)
b_t.lt(90)
```

```
w.tracer(0)


global r_led,g_led,b_led
r_led = 0
g_led = 0
b_led = 0




def draw_circle(color,pos,p,state,pos_w,p_w):
    p.clear()
    p.pu()
    p.goto(pos)
    p.pd()
    p.color(color)
    p.begin_fill()
    p.circle(-30)
    p.end_fill()
    p.hideturtle()
    p_w.clear()
    p_w.pu()
    p_w.goto(pos_w)
    p_w.pd()
```

```
    p_w.color("white")
    p_w.write(state,font = ("Arial",14))
    p_w.hideturtle()



def led_blink(x,y):
    global r_led,g_led,b_led
    print(x,y)
    if(x > -150 and x < -50 and y < 50 and y > -40):
        print("hello")
        if(r_led == 0):
            draw_circle("orange red",(-130,0),r_t,"ON",(-105,60),r_w)
            r_led = 1
            s.write(b'1')
        elif(r_led == 1):
            draw_circle("red4",(-130,0),r_t,"OFF",(-105,60),r_w)
            r_led = 0
            s.write(b'2')

    if(x > -50 and x < 50 and y < 50 and y > -40):
        print("hello")
        if(g_led == 0):
            draw_circle("lawn green",(-30,0),g_t,"ON",(-5,60),g_w)
            g_led = 1
            s.write(b'3')
```

```
        elif(g_led == 1):
            draw_circle("dark green",(-30,0),g_t,"OFF",(-5,60),g_w)
            g_led = 0
            s.write(b'4')
    if(x > 50 and x < 150 and y < 50 and y > -40):
        print("hello")
        if(b_led == 0):
            draw_circle("deep sky blue",(70,0),b_t,"ON",(75,60),b_w)
            b_led = 1
            s.write(b'5')
        elif(b_led == 1):
            draw_circle("blue4",(70,0),b_t,"OFF",(75,60),b_w)
            b_led = 0
            s.write(b'6')




t1.pensize(2)
t1.pu()
t1.goto(-150,50)
t1.pd()
t1.fd(300)
t1.rt(90)
t1.fd(90)
```

```
t1.rt(90)
t1.fd(300)
t1.rt(90)
t1.fd(90)

t1.pu()
t1.goto(-50,50)
t1.pd()
t1.bk(90)

t1.pu()
t1.goto(50,50)
t1.pd()
t1.bk(90)

draw_circle("red4",(-130,0),r_t,"OFF",(-105,60),r_w)
draw_circle("dark green",(-30,0),g_t,"OFF",(-5,60),g_w)
draw_circle("blue4",(70,0),b_t,"OFF",(75,60),b_w)
t1.hideturtle()

w.onscreenclick(led_blink)
w.update()
```

Arduino Program

```
int r_led = 2;
int g_led = 3;
int b_led = 4;
void setup() {
  // put your setup code here, to run once:
pinMode(r_led,OUTPUT);
pinMode(g_led,OUTPUT);
pinMode(b_led,OUTPUT);
Serial.begin(9600);
}

void loop() {
if(Serial.available())
{
  char k = Serial.read();
  if(k == '1')
    digitalWrite(r_led,1);
  else
    if(k == '2')
    digitalWrite(r_led,0);
 else
 if(k == '3')
    digitalWrite(g_led,1);
```

```
  else
    if(k == '4')
    digitalWrite(g_led,0);
  else
  if(k == '5')
    digitalWrite(b_led,1);
  else
    if(k == '6')
    digitalWrite(b_led,0);
}
}
```