

Pratik kalaskar

2019114

Q1

```
#include <Adafruit_NeoPixel.h>

Adafruit_NeoPixel str1 = Adafruit_NeoPixel(4, 2, NEO_GRB + NEO_KHZ800);
Adafruit_NeoPixel str2 = Adafruit_NeoPixel(4, 3, NEO_GRB + NEO_KHZ800);
Adafruit_NeoPixel str3 = Adafruit_NeoPixel(4, 4, NEO_GRB + NEO_KHZ800);
Adafruit_NeoPixel str4 = Adafruit_NeoPixel(4, 5, NEO_GRB + NEO_KHZ800);
Adafruit_NeoPixel str5 = Adafruit_NeoPixel(4, 6, NEO_GRB + NEO_KHZ800);

void setup()
{
  pinMode(13, OUTPUT);
  str1.begin();
  str1.show();
  str2.begin();
  str2.show();
  str3.begin();
  str3.show();
  str4.begin();
  str4.show();
  str5.begin();
  str5.show();
}

void loop()
{
  B();
}
```

```
delay(2000);  
clr();  
N();  
delay(2000);  
clr();  
}
```

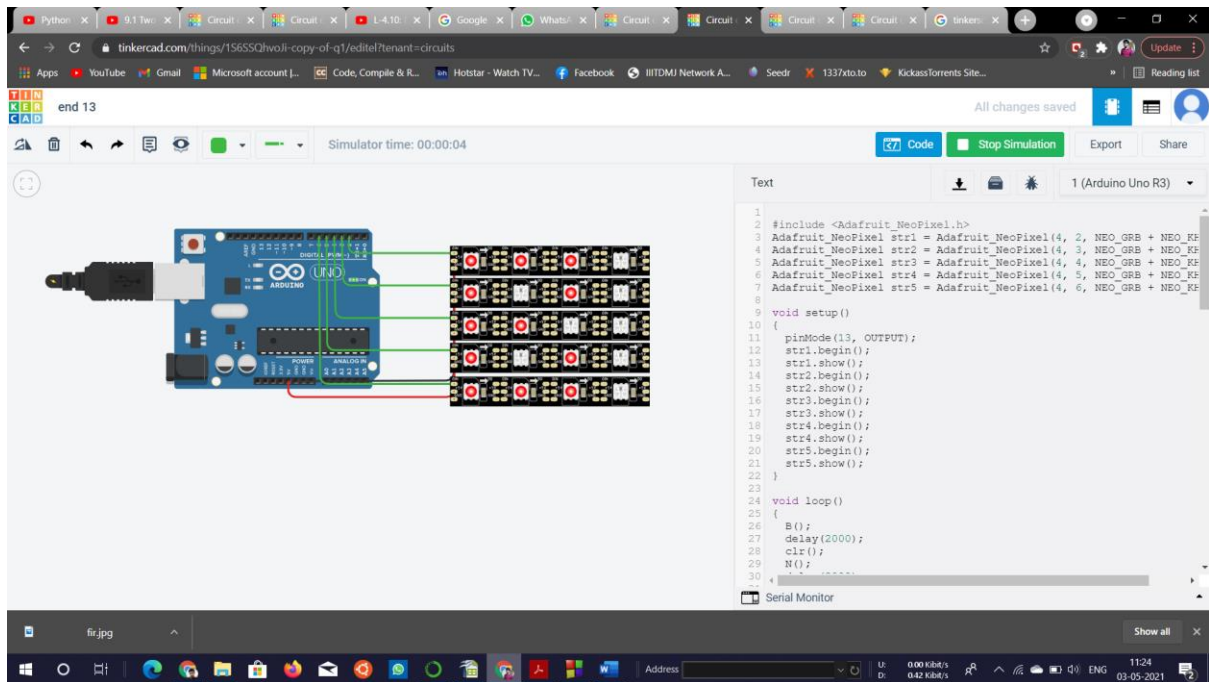
```
void B(){  
    for(int i=0;i<3;i++){  
        str1.setPixelColor(i,str1.Color(255,0,0));  
    }  
    for(int i=0;i<4;i++){  
        if(i%2==0){  
            str2.setPixelColor(i,str2.Color(255,0,0));  
        }  
    }  
    for(int i=0;i<2;i++){  
        str3.setPixelColor(i,str3.Color(255,0,0));  
    }  
    for(int i=0;i<4;i++){  
        if(i%2==0){  
            str4.setPixelColor(i,str4.Color(255,0,0));  
        }  
    }  
    for(int i=0;i<3;i++){  
        str5.setPixelColor(i,str5.Color(255,0,0));  
    }  
    str1.show();  
    str2.show();  
    str3.show();  
    str4.show();  
}
```

```
    str5.show();  
}
```

```
void clr(){  
    for(int i=0;i<4;i++){  
        str1.setPixelColor(i,str1.Color(0,0,0));  
    }  
    for(int i=0;i<4;i++){  
        str2.setPixelColor(i,str2.Color(0,0,0));  
    }  
    for(int i=0;i<4;i++){  
        str3.setPixelColor(i,str3.Color(0,0,0));  
    }  
    for(int i=0;i<4;i++){  
        str4.setPixelColor(i,str4.Color(0,0,0));  
    }  
    for(int i=0;i<4;i++){  
        str5.setPixelColor(i,str5.Color(0,0,0));  
    }  
    str1.show();  
    str2.show();  
    str3.show();  
    str4.show();  
    str5.show();  
}
```

```
void N(){  
    for(int i=0;i<4;i++){  
        if(i==0 || i==3){  
            str1.setPixelColor(i,str1.Color(255,0,0));  
        }  
    }
```

```
}  
  
for(int i=0;i<4;i++){  
    if(i==0 || i==1 || i==3) {  
        str2.setPixelColor(i,str2.Color(255,0,0));  
    }  
}  
  
for(int i=0;i<4;i++){  
    if(i==0 || i==2 || i==3){  
        str3.setPixelColor(i,str3.Color(255,0,0));  
    }  
}  
  
for(int i=0;i<4;i++){  
    if(i==0 || i==3) {  
        str4.setPixelColor(i,str4.Color(255,0,0));  
    }  
}  
  
str1.show();  
str2.show();  
str3.show();  
str4.show();  
}
```



Q2

//master

#include <Wire.h>

void setup()

{

Wire.begin();

Serial.begin(9600);

}

void loop()

{

Wire.requestFrom(8,2);

byte MasterReceive1 = Wire.read();

```
Serial.println("Received by slave 1");
```

```
Serial.println(MasterReceive1);
```

```
Wire.requestFrom(5,2);
```

```
byte MasterReceive2 = Wire.read();
```

```
Serial.println("Received by slave 2");
```

```
Serial.println(MasterReceive2);
```

```
if( MasterReceive1 < 100 or MasterReceive2 < 100 )
```

```
{
```

```
    analogWrite(9,40);
```

```
}
```

```
delay(1000);
```

```
analogWrite(9,0);
```

```
}
```

```
//slave 1
```

```
#include <Wire.h>
```

```
byte SlaveReceived;
```

```
const int trigPin = 9;
```

```
const int echoPin = 10;
```

```
long duration;
```

```
float distance;
```

```
void setup()
```

```
{
```

```

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

Wire.begin(8);

Wire.onReceive(receiveEvent);

Wire.onRequest(requestEvent);

Serial.begin(9600);
}

void loop()
{
    Serial.println(SlaveReceived);
}

void requestEvent()
{

    digitalWrite(trigPin, LOW);
    delayMicroseconds(2);
    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);
    duration = pulseIn(echoPin, HIGH);
    distance= duration*0.034/2;
    int send = distance;
    Wire.write(send);
}

void receiveEvent (int howMany)
{
    SlaveReceived = Wire.read();
    Serial.println(SlaveReceived);
}

```

```
//slave 2

#include <Wire.h>

byte SlaveReceived;


const int trigPin = 9;
const int echoPin = 10;
long duration;
float distance;


void setup()
{
    pinMode(trigPin, OUTPUT);
    pinMode(echoPin, INPUT);
    Wire.begin(5);
    Wire.onReceive(receiveEvent);
    Wire.onRequest(requestEvent);
    Serial.begin(9600);
}


void loop()
{
    Serial.println(SlaveReceived);
}

void requestEvent()
{
    digitalWrite(trigPin, LOW);
    delayMicroseconds(2);
    digitalWrite(trigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(trigPin, LOW);
```



```

duration = pulseIn(echoPin, HIGH);

distance= duration*0.034/2;

int send = distance;

Wire.write(send);

}

void receiveEvent (int howMany)

{

SlaveReceived = Wire.read();

Serial.println(SlaveReceived);

}

```

