

# E-Textiles Unit Reflection

New things I learned from this unit included how to program a circuit playground. For instance when we were planning on what designs to do with our project, we had to learn what each band was and how, we can make the LEDs have different patterns when connected to certain bands.

Here is an example of my coding for my final project with e-textiles in the following slides



Adafruit Circuit Playground ▾

No ports detected ▾

Select your device, the correct port, and click Run.

Serial Monitor



```
1 int led1 = 3;
2 int led2 = 2;
3 int led3 = 0;
4 int led4 = 1; //name your led pins
5
6 int aluminumFoil = A11; //name your aluminum foil patch (only the one that's connected to an "A" pin)
7 int sensorValue; //this variable stores readings from the sensor
8
9 void setup() {
10     pinMode(led1, OUTPUT);
11     pinMode(led2, OUTPUT);
12     pinMode(led3, OUTPUT);
13     pinMode(led4, OUTPUT); //set your led pins to OUTPUT
14
15     pinMode(aluminumFoil, INPUT); //sets aluminum foil patch to INPUT
16     digitalWrite(aluminumFoil, HIGH); //initializes the sensor
17     Serial.begin(9600); //initializes the communication to the serial monitor
18 }
19
20 void loop() {
21     sensorValue = analogRead(aluminumFoil); //the part of your code that reads information from the sensor
22     Serial.println(sensorValue); //prints the value of the sensor to the serial monitor
23     delay(100); //delay for 1/10 of a second
24
25     if (sensorValue > 900) { //Set your first condition.
26         //For instance, this might be for when nothing is touching.
27         blink1(); //here is your first lighting pattern (change name as needed)
28     }
29     else if (sensorValue >= 600 && sensorValue <= 900) {
30         blink2(); //second lighting pattern...
31     }
32
33     else { //this would be for everything below the last condition
34         blink3();
35     }
36 }
37
38 void blink1(){ //put your lighting patterns into procedures
```

```
31 }
32
33 - else { //this would be for everything below the last condition
34     blink3();
35 }
36 }
37
38 - void blink1(){ //put your lighting patterns into procedures
39     digitalWrite(led1, HIGH);
40     delay(500);
41     digitalWrite(led1, LOW);
42     delay (500);
43     digitalWrite(led2, HIGH);
44     delay(500);
45     digitalWrite(led2, LOW);
46     delay(500);
47     digitalWrite(led3, HIGH);
48     delay(500);
49     digitalWrite(led3, LOW);
50     delay(500);
51     digitalWrite(led4, HIGH);
52     delay(500);
53     digitalWrite(led4, LOW);
54 }
55
56 - void blink2(){
57     digitalWrite(led1, HIGH);
58     digitalWrite(led2, HIGH);
59     digitalWrite(led3, HIGH);
60     digitalWrite(led4, HIGH);
61     delay(1000);
62     digitalWrite(led1, LOW);
63     digitalWrite(led2, LOW);
64     digitalWrite(led3, LOW);
65     digitalWrite(led4, LOW);
66     delay(500);
67     digitalWrite(led1, HIGH);
68     digitalWrite(led2, HIGH);
```

```
64     digitalWrite(led3, LOW);
65     digitalWrite(led4, LOW);
66     delay(500);
67     digitalWrite(led1, HIGH);
68     digitalWrite(led2, HIGH);
69     digitalWrite(led3, HIGH);
70     digitalWrite(led4, HIGH);
71     delay(500);
72     digitalWrite(led1, HIGH);
73     digitalWrite(led2, HIGH);
74     digitalWrite(led3, HIGH);
75     digitalWrite(led4, HIGH);
76     delay(500);
77     digitalWrite(led1, LOW);
78     digitalWrite(led2, LOW);
79     digitalWrite(led3, LOW);
80     digitalWrite(led4, LOW);
81 }
82
83 int stateChange() {
84     if (random(1,10) <= 5) {
85         return HIGH;
86     } else {
87         return LOW;
88     }
89 }
90 void blink3(){
91     digitalWrite(led1, stateChange());
92     digitalWrite(led2, stateChange());
93     digitalWrite(led3, stateChange());
94     digitalWrite(led4, stateChange());
95     delay(100);
96 }
97
98
99
100
101
```