Activity 4 : Programming Embedded Systems (Having Fun with Arduino)

Group No : 14
Group Member :

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Part 3: Clapping LED

In this part, you will do the coding to create a clapping LED. Clapping [12-123-12-12-1] the clapping state is divided into 5 states. When the button is pushed, play the LED in only one state.

For example: [PUSH BUTTON] x-x [PUSH BUTTON] x-x-x [PUSH BUTTON] x-x [PUSH BUTTON] x-x [PUSH BUTTON] x [PUSH BUTTON] x-x [PUSH BUTTON] x-x-x [PUSH BUTTON] x-x [PUSH BUTTON] x-x [PUSH BUTTON] x

Note:

- For ‘x’ means LED ON and ‘-’ means LED OFF
- **Given 0.125s delay time between ‘x’ and ‘-’**

Example Video Clip : https://youtu.be/Eld2ZTJbMWQ

```
int ledpin = 2;
int button = 3;
int buttonState = 0;
int lastButtonState = 0;
int count = 0;

void setup() {
  pinMode(ledpin, OUTPUT);
  pinMode(button, INPUT_PULLUP);
  digitalWrite(ledpin, LOW);
}

void loop() {
  buttonState = digitalRead(button);
```

Activity 4: Programming Embedded Systems (Part 3)

```
if (buttonState != lastButtonState && buttonState == HIGH) {
  if (count % 5 == 0) {
    digitalWrite(ledpin, HIGH);
    delay(125);
    digitalWrite(ledpin, LOW);
    delay(125);
    digitalWrite(ledpin, HIGH);
    delay(125);
    digitalWrite(ledpin, LOW);
  } else if (count % 5 == 1) {
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
        delay(125);
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
        delay(125);
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
  } else if (count % 5 == 2) {
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
        delay(125);
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
  } else if (count % 5 == 3) {
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
        delay(125);
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
  } else if (count % 5 == 4) {
        digitalWrite(ledpin, HIGH);
        delay(125);
        digitalWrite(ledpin, LOW);
  }
  count++;
```

Activity 4: Programming Embedded Systems (Part 3)

```
  }
  lastButtonState = buttonState;
  delay(50);
}
```

Once you finish, students must inform an instructor or a TA for inspection.

— THIS IS THE END OF PART 3 —