

Arduino code for “Twinkling lights with button”

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int animationSpeed = 0;

int Brightness = 0;

int j = 0;

int i = 0;

int buttonState = 0;

void setup()
{
  pinMode(2, INPUT);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(11, OUTPUT);
  pinMode(10, OUTPUT);
  pinMode(9, OUTPUT);
  pinMode(8, OUTPUT);
}

void loop()
{
  // read the state of the pushbutton value
  buttonState = digitalRead(2);
  // check if pushbutton is pressed. if it is, the
  // buttonState is HIGH
  if (buttonState == HIGH) {
    // LED to fading
    animationSpeed = 3;
    for (Brightness = 0; Brightness <= 255; Brightness += 1) {
      analogWrite(LED_BUILTIN, Brightness);
      delay(animationSpeed); // Wait for animationSpeed millisecond(s)
    }
    for (Brightness = 255; Brightness <= 0; Brightness += 1) {
      analogWrite(LED_BUILTIN, Brightness);
      delay(animationSpeed); // Wait for animationSpeed millisecond(s)
    }
    digitalWrite(8, LOW);

    for (Brightness = 0; Brightness <= 255; Brightness += 1) {
      analogWrite(12, Brightness);
      delay(animationSpeed); // Wait for animationSpeed millisecond(s)
    }
    for (Brightness = 255; Brightness <= 0; Brightness += 1) {
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    analogWrite(12, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
digitalWrite(LED_BUILTIN, LOW);

for (Brightness = 0; Brightness <= 255; Brightness += 1) {
    analogWrite(11, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
for (Brightness = 255; Brightness <= 0; Brightness += 1) {
    analogWrite(11, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
digitalWrite(12, LOW); animationSpeed = 3;
for (Brightness = 0; Brightness <= 255; Brightness += 1) {
    analogWrite(10, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
for (Brightness = 255; Brightness <= 0; Brightness += 1) {
    analogWrite(10, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
digitalWrite(11, LOW);

for (Brightness = 0; Brightness <= 255; Brightness += 1) {
    analogWrite(9, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
for (Brightness = 255; Brightness <= 0; Brightness += 1) {
    analogWrite(9, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
digitalWrite(10, LOW);

for (Brightness = 0; Brightness <= 255; Brightness += 1) {
    analogWrite(8, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
for (Brightness = 255; Brightness <= 0; Brightness += 1) {
    analogWrite(8, Brightness);
    delay(animationSpeed); // Wait for animationSpeed millisecond(s)
}
digitalWrite(9, LOW);

} else {
    // turn LED off
    digitalWrite(LED_BUILTIN, HIGH);
    digitalWrite(12, OUTPUT);
}

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    digitalWrite(11, OUTPUT);  
    digitalWrite(10, OUTPUT);  
    digitalWrite(9, OUTPUT);  
    digitalWrite(8, OUTPUT);  
}  
delay(10); // Delay a little bit to improve simulation performance  
}
```