EXPERIMENT 5:

HUMIDITY SENSOR CODING:

```
const int sensorPin = A0; // Pin where the HSM-20G sensor is connected
const int ledPin = 13;     // Pin for the LED
const float humidityThreshold = 30.0; // Humidity threshold for LED to glow

void setup() {
   Serial.begin(9600); // Start serial communication at 9600 baud
   pinMode(ledPin, OUTPUT); // Set the LED pin as an output
}

void loop() {
   int sensorValue = analogRead(sensorPin); // Read the analog value from the sensor
   // Convert the analog value to voltage (0-5V)
   float voltage = sensorValue * (5.0 / 1023.0);

   // Convert voltage to humidity percentage
   // Assuming 0.8V corresponds to 0% and 3.0V corresponds to 100%
   float humidity = (voltage - 0.8) * (100.0 / (3.0 - 0.8));

   // Print the humidity value to the Serial Monitor
   Serial.print("Humidity: ");
   Serial.print(humidity);
   Serial.println(" %");

   // Check if humidity exceeds the threshold
   if (humidity > humidityThreshold) {
      digitalWrite(ledPin, HIGH); // Turn on the LED
      Serial.println("LED ON: High Humidity");
   } else {
      digitalWrite(ledPin, LOW); // Turn off the LED
      Serial.println("LED OFF: Normal Humidity");
   }

   delay(2000); // Wait for 2 seconds before the next reading
}
```

COMPONENTS:

- Arduino

- LED
- BREADBOARD
- CONNECTING WIRES
- HUMUDITY SENSOR