MQ3

const int mq3Pin = 8; int mq3Status = 0; void setup(){ Serial.begin(9600); pinMode(mq3Pin , INPUT); } void loop(){ mq3Status = digitalRead(mq3Pin); if(mq3Status == HIGH) { Serial.println("ALCOHOL DETECTED"); } else { Serial.println("ALCOHOL NOT DETECTED"); } delay(1000); }

LED

const int buttonPin = 2; const int ledPin = 13; int buttonState = 0; void setup() { pinMode(ledPin, OUTPUT); pinMode(buttonPin, INPUT\_PULLUP); } void loop() { buttonState = digitalRead(buttonPin); if (buttonState == LOW) { digitalWrite(ledPin, HIGH); } else { digitalWrite(ledPin, LOW); } }

ULTRASONIC

const int trigPin = 9; const int echoPin = 10; void setup() { Serial.begin(9600); pinMode(trigPin, OUTPUT); pinMode(echoPin, INPUT); } void loop(){ digitalWrite(trigPin,LOW); delayMicroseconds(2); digitalWrite(trigPin, HIGH); delayMicroseconds(10); digitalWrite(trigPin, LOW); long duration = pulseIn(echoPin,HIGH); int distance = duration \* 0.034 /2 ; Serial.print("Distance:\n"); Serial.print(distance); Serial.print("cm"); delay(1000); }

LM35

// Define the analog pin connected to LM35const int analogPin = A0;void setup() { // Start the serial communication Serial.begin(9600);}void loop() { // Read the analog value from the LM35 sensor int sensorValue = analogRead(analogPin); // Convert the analog value to voltage (5V reference, 10-bit ADC)float voltage = sensorValue \* (5.0 / 1023.0); // Convert the voltage to temperature in Celsius (10mV per °C) float temperatureC = voltage \* 100.0; // Print the temperature in Celsius to the serial monitor Serial.print("Temperature: "); Serial.print(temperatureC); Serial.println(" °C");// Wait for 1 second before taking another readingdelay(1000);}

Motor

#define motorPin1 9 // Input 1 of L293D#define motorPin2 8 // Input 2 of L293D#define enablePin 10 // Enable pin of L293D (for speed control)void setup() { pinMode(motorPin1, OUTPUT); // Set motor control pins as output pinMode(motorPin2, OUTPUT); pinMode(enablePin, OUTPUT); // Set enable pin as output // Set PWM value for motor speed (0-255) analogWrite(enablePin, 255); // Full speed}void loop() { // Motor clockwise directiondigitalWrite(motorPin1, HIGH); // Motor turns clockwise digitalWrite(motorPin2, LOW); // Motor turns in one direction delay(2000); // Run motor for 2 seconds // Motor stop digitalWrite(motorPin1, LOW); // Motor stops digitalWrite(motorPin2, LOW); // Motor stops delay(1000); // Stop for 1 second // Motor counterclockwise directiondigitalWrite(motorPin1, LOW); // Motor turns counterclockwise digitalWrite(motorPin2, HIGH); // Motor turns in the opposite direction delay(2000); // Run motor for 2 seconds // Motor stop again digitalWrite(motorPin1, LOW); // Motor stopsdigitalWrite(motorPin2, LOW); // Motor stopsdelay(1000); // Stop for 1 second}

Arduino Pin 9 -------------> Input 1 (Pin 2) of L293DArduino Pin 8 -------------> Input 2 (Pin 7) of L293DArduino Pin 10 -------------> Enable Pin (Pin 1) of L293DArduino GND -------------> GND (Pin 4) of L293DArduino 5V -------------> VCC (Pin 16) and Motor Power Supply (Pin 8) of L293DMotor Terminal 1 -------------> Output 1 (Pin 3) of L293DMotor Terminal 2 -------------> Output 2 (Pin 6) of L293D

ZIGBEE

void setup() { Serial.begin(9600); // Initialize serial communication at 9600 baud}void loop() { Serial.println("Hello from Arduino!"); // Send a message delay(1000); // Wait for 1 second}

import serial# Open the serial port to the XBee moduleser = serial.Serial('/dev/ttyUSB0', 9600)while True:if ser.in\_waiting > 0: # Check if data is available to read data = ser.readline().decode('utf-8').strip() # Read data and decode it print(f"Received: {data}") # Print the received data

PISO SIPO

Clk,rst,s30,m,y30…signal t:std\_logic\_vector30..beg..pro..beg…if rst =1 then y<=0000 elsif clk’event and clk=’1’ then case m is when”0” => t(3) <= s(0);…..t(0) <= t(1);..y(0) <= t(0) ,,,,,,,t3<=s0..t2<=t3…….t0<=t1 t<=s y<=t t<= s; t2<=t3 t1<t2 t0<=t1 y3<=t0