ARDUINO UNO R3 CODES

1. SWITCH-LED:

Code:

const int led = 2;

const int input\_switch = 3;

void setup() {

pinMode(led, OUTPUT);

pinMode(input\_switch, INPUT\_PULLUP);

}

void loop() {

if(digitalRead(input\_switch) == LOW)

{

digitalWrite(led, HIGH);

delay(1000);

}

else

digitalWrite(led, LOW);

}

2. TWO SWITCH – TWO LED:

Code:

const int led1 = 2;

const int led2 = 3;

const int input\_switch1 = 4;

const int input\_switch2 = 5;

void setup() {

pinMode(led1, OUTPUT);

pinMode(led2, OUTPUT);

pinMode(input\_switch1, INPUT\_PULLUP);

pinMode(input\_switch2, INPUT\_PULLUP);

}

void loop() {

if(digitalRead(input\_switch1) == LOW)

{

digitalWrite(led1, HIGH);

digitalWrite(led2, LOW);

delay(500);

}

else if(digitalRead(input\_switch2) == LOW)

{

digitalWrite(led1, LOW);

digitalWrite(led2, HIGH);

delay(500);

}

else

digitalWrite(led1, LOW);

digitalWrite(led2, LOW);

}

3.3 TIMES BLINKING LED:

Code:

const int led = 6;

const int input\_switch = 5;

void setup() {

pinMode(led, OUTPUT);

pinMode(input\_switch, INPUT\_PULLUP);

}

void loop() {

if(digitalRead(input\_switch) == LOW)

{

led\_blinking();

}

else

digitalWrite(led, LOW);

}

void led\_blinking()

{

digitalWrite(led, HIGH);

delay(1000);

digitalWrite(led, LOW);

delay(1000);

digitalWrite(led, HIGH);

delay(1000);

digitalWrite(led, LOW);

delay(1000);

digitalWrite(led, HIGH);

delay(1000);

digitalWrite(led, LOW);

delay(1000);

}

4. BUZZER:

Code:

const int buzzer = 12;

void setup() {

pinMode(buzzer, OUTPUT);

digitalWrite(buzzer, LOW);

}

void loop() {

digitalWrite(buzzer, HIGH);

delay(1000);

digitalWrite(buzzer, LOW);

delay(500);

digitalWrite(buzzer, HIGH);

delay(1000);

digitalWrite(buzzer, LOW);

delay(500);\

digitalWrite(buzzer, HIGH);

delay(1000);

digitalWrite(buzzer, LOW);

delay(500);

while(1);

}

5. RELAY:

Code:

int relay = 12;

void setup() {

pinMode(relay, OUTPUT);

digitalWrite(relay, LOW);

}

void loop() {

digitalWrite(relay, HIGH);

delay(2000);

digitalWrite(relay, LOW);

delay(1000);

}

6. LCD:

Code:

#include <LiquidCrystal.h>

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

void setup() {

lcd.begin(16, 2);

}

void loop() {

lcd.setCursor(0, 0);

lcd.print(" 16X2 LCD ");

lcd.setCursor(0, 1);

lcd.print(" sttmani.com ");

delay(5000);

lcd.clear();

}

7. ULTRASONIC SENSOR WITH LCD:

Code:

#include <LiquidCrystal.h>

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

const int trigPin = 2;

const int echoPin = 3;

long duration;

int distance;

void setup() {

lcd.begin(16, 2);

pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output

pinMode(echoPin, INPUT); // Sets the echoPin as an Input

project\_name();

}

void loop(){

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);

distance= duration\*0.034/2;

lcd.setCursor(0, 0);

lcd.print("Distance: ");

lcd.setCursor(8, 0);

lcd.println(distance);

lcd.setCursor(0, 1);

lcd.print(" ");

delay(100);

}

void project\_name()

{

lcd.setCursor(0, 0);

lcd.print("ULTRASONIC SENSR");

lcd.setCursor(0, 1);

lcd.print(" HC-SR04 ");

delay(2000);

lcd.clear();

}

8. DHT11 WITH LCD:

Code:

#include <dht11.h>

#include<LiquidCrystal.h>

#define DHT11\_PIN 2

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

const int buzzer = 13;

const int relay = 12;

dht DHT;

void setup()

{

lcd.begin(16, 2);

pinMode(buzzer, OUTPUT);

pinMode(relay, OUTPUT);

digitalWrite(buzzer, LOW);

digitalWrite(relay, LOW);

project\_Name();

}

void loop()

{

int chk = DHT.read11(DHT11\_PIN);

lcd.setCursor(4,0);

lcd.print("TMP: ");

lcd.setCursor(0,1);

lcd.print("Hum: ");

lcd.setCursor(9,0);

lcd.print(DHT.temperature);

lcd.setCursor(5,1);

lcd.print(DHT.humidity);

if(DHT.temperature > 40)

{

digitalWrite(relay, HIGH);

digitalWrite(buzzer, HIGH);

delay(500);

digitalWrite(buzzer, LOW);

delay(500);

}

else

{

digitalWrite(buzzer, LOW);

digitalWrite(relay, LOW);

}

delay(500);

}

void project\_Name(){

lcd.setCursor(0,0);

lcd.print(" DHT 11 Sensor");

lcd.setCursor(0,1);

lcd.print(" by sttmani.com");

delay(3000);

lcd.clear();

}

9. LM35 WITH LCD:

Code:

#include<LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

float tempc; //variable to store temperature in degree Celsius

float tempf; //variable to store temperature in Fahreinheit

float vout; //temporary variable to hold sensor reading

void setup()

{

lcd.begin(16,2);

project\_Name();

}

void loop()

{

vout=analogRead(A2); // Assigning analog pin A2 to variable 'sensor'

vout=(vout\*500)/1023;

tempc=vout; // Storing value in Degree Celsius

tempf=(vout\*1.8)+32; // Converting to Fahrenheit

lcd.setCursor(0,0);

lcd.print("In DegreeC= ");

lcd.print(tempc);

lcd.setCursor(0,1);

lcd.print("In Fahrenheit=");

lcd.print(tempf);

delay(1000); //Delay of 1 second for ease of viewing in serial monitor

}

void project\_Name(){

lcd.setCursor(0,0);

lcd.print(" LM35 INTERFACE ");

lcd.setCursor(0,1);

lcd.print(" By sttmani.com ");

delay(3000);

lcd.clear();

}

10. IR SENSOR WITH BUZZER:

Code:

const int ir\_sensor = 8;

const int buzzer = 13;

void setup()

{

pinMode(ir\_sensor, INPUT\_PULLUP);

pinMode(buzzer, OUTPUT);

}

void loop()

{

if(digitalRead(ir\_sensor)==LOW)

{

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

}

else

digitalWrite(buzzer, LOW);

}

11. PIR SENSOR WITH BUZZER:

Code:

const int pir\_sensor = 8;

const int buzzer = 13;

void setup()

{

pinMode(pir\_sensor, INPUT\_PULLUP);

pinMode(buzzer, OUTPUT);

}

void loop()

{

if(digitalRead(pir\_sensor)==LOW)

{

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

}

else

digitalWrite(buzzer, HIGH);

}

12. FLAME SENSOR WITH BUZZER:

Code:

const int flame\_sensor = 9;

const int buzzer = 13;

void setup()

{

pinMode(flame\_sensor, INPUT\_PULLUP);

pinMode(buzzer, OUTPUT);

}

void loop()

{

if(digitalRead(flame\_sensor)==LOW)

{

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

}

else

digitalWrite(buzzer, LOW);

}

13. MQ2 SENSOR:

Code:

#include<LiquidCrystal.h>

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

void setup()

{

lcd.begin(16, 2);

project\_Name();

}

void loop()

{

int mq2gas\_sensor\_data = analogRead(A0);

lcd.setCursor(0,0);

lcd.print("MQ2 Data: ");

lcd.setCursor(0,1);

lcd.print(" ");

lcd.setCursor(9,0);

lcd.print(mq2gas\_sensor\_data);

delay(500);

}

void project\_Name(){

lcd.setCursor(0,0);

lcd.print("MQ2 GAS SENSOR ");

lcd.setCursor(0,1);

lcd.print(" by sttmani.com ");

delay(3000);

lcd.clear();

}

14. WIFI MODULE USING DHT11+LCD:

Code:

#include <dht.h>

#include <LiquidCrystal.h>

#include <SoftwareSerial.h>

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

SoftwareSerial wifi(8, 9); // TX, RX

String apiKey = "K2Y9WJ8FQLDCLJSL"; /// Write API Key

dht DHT;

#define DHT11\_PIN 2

const int buzzer = 13;

void setup(){

lcd.begin(16, 2);

pinMode(buzzer, OUTPUT);

digitalWrite(buzzer, 0);

project\_Name();

Serial.begin(9600);

Serial.println("AT");

delay(1000);

Serial.println("AT+CMGF=1");

delay(1000);

Serial.println("AT+CNMI=2,2,0,0,0");

delay(1000);

lcd.setCursor(0,0);

lcd.print("WiFi module ");

lcd.setCursor(0,1);

lcd.print("Initilizing.... ");

wifi.begin(115200);

wifi.println("AT+RST");

delay(4000);

wifi.println("AT+CWMODE=3");

delay(4000);

wifi.print("AT+CWJAP=");

wifi.write('"');

wifi.print("STTMANI");

wifi.write('"');

wifi.write(',');

wifi.write('"');

wifi.print("hailucky123,./");

wifi.write('"');

wifi.println();

delay(1000);

lcd.setCursor(0,0);

lcd.print("WiFi module ");

lcd.setCursor(0,1);

lcd.print("Initilized..... ");

delay(1000);

lcd.clear();

}

void loop()

{

int chk = DHT.read11(DHT11\_PIN);

//SendWiFi\_Data();

//delay(1000);

lcd.setCursor(0,0);

lcd.print("Temperature: ");

lcd.setCursor(0,1);

lcd.print("Humidity: ");

lcd.setCursor(12,0);

lcd.print(DHT.temperature);

lcd.setCursor(9,1);

lcd.print(DHT.humidity);

delay(500);

/\* Tempurature Data Process\*/

if(DHT.temperature > 45)

{

buzzer\_sound();

}

/\* Humidity Data Process\*/

if(DHT.humidity < 30)

{

buzzer\_sound();

}

lcd.setCursor(15,1);

lcd.write(0x20);

SendWiFi\_Data();

delay(1000);

}

void SendWiFi\_Data(){

String cmd = "AT+CIPSTART=\"TCP\",\"";

cmd += "184.106.153.149"; // api.thingspeak.com

cmd += "\",80";

wifi.println(cmd);

delay(1500);

String getStr ="GET /update?api\_key=";

getStr += apiKey;

getStr +="&field1=";

getStr += String(DHT.temperature);

getStr +="&field2=";

getStr += String(DHT.humidity);

getStr += "\r\n\r\n";

// send data length

cmd = "AT+CIPSEND=";

cmd += String(getStr.length());

wifi.println(cmd);

delay(1500);

wifi.println(getStr);

delay(1000);

}

void buzzer\_sound()

{

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

digitalWrite(buzzer, HIGH);

delay(600);

digitalWrite(buzzer, LOW);

delay(400);

}

void project\_Name(){

lcd.setCursor(0,0);

lcd.print(" ESP8266 ");

lcd.setCursor(0,1);

lcd.print(" Interfacing ");

delay(3000);

lcd.clear();

}

15. AC VOLTAGE REGULATOR USING BLUETOOTH:

Code:

const int in1 = A1;

const int in2 = A2;

const int in3 = A3;

int incomingByte = 0;

void setup() {

Serial.begin(9600);

pinMode(in1, OUTPUT);

pinMode(in2, OUTPUT);

pinMode(in3, OUTPUT);

}

void loop() {

if (Serial.available() > 0) {

incomingByte = Serial.read();

Serial.print("I received: ");

Serial.println(incomingByte);

}

if (incomingByte < 15)

{

digitalWrite(in1, HIGH);

digitalWrite(in2, HIGH);

digitalWrite(in3, HIGH);

Serial.print("0");

}

if (incomingByte > 15 && incomingByte < 55)

{

digitalWrite(in1, LOW);

digitalWrite(in2, HIGH);

digitalWrite(in3, HIGH);

Serial.print("1");

}

if (incomingByte > 55 && incomingByte < 95)

{

digitalWrite(in1, HIGH);

digitalWrite(in2, LOW);

digitalWrite(in3, HIGH);

Serial.print("2");

}

if (incomingByte > 95 && incomingByte < 130)

{

digitalWrite(in1, LOW);

digitalWrite(in2, LOW);

digitalWrite(in3, HIGH);

Serial.print("3");

}

if (incomingByte > 130 && incomingByte < 175)

{

digitalWrite(in1, HIGH);

digitalWrite(in2, HIGH);

digitalWrite(in3, LOW);

Serial.print("4");

}

if (incomingByte > 175 && incomingByte < 210)

{

digitalWrite(in1, LOW);

digitalWrite(in2, HIGH);

digitalWrite(in3, LOW);

Serial.print("5");

}

if (incomingByte > 210 && incomingByte < 230)

{

digitalWrite(in1, HIGH);

digitalWrite(in2, LOW);

digitalWrite(in3, LOW);

Serial.print("6");

}

if (incomingByte > 230 && incomingByte < 254)

{

digitalWrite(in1, LOW);

digitalWrite(in2, LOW);

digitalWrite(in3, LOW);

Serial.print("7");

}

}

16.10K POT WITH LCD:

Code:

#include <LiquidCrystal.h>

LiquidCrystal lcd(10, 11, 4, 5, 6, 7);

void setup() {

lcd.begin(16, 2);

}

void loop() {

int Varaible\_resistor\_data = analogRead(A0);

lcd.setCursor(0,0);

lcd.print("Resistance value");

lcd.setCursor(0,1);

lcd.print(" ");

lcd.setCursor(0,1);

lcd.print(valiable\_resistance);

}

void project\_name()

{

lcd.setCursor(0, 0);

lcd.print("ADC INTERFA ");

lcd.setCursor(0, 1);

lcd.print(" sttmani.com ");

delay(5000);

lcd.clear();

}