SPRINT-1

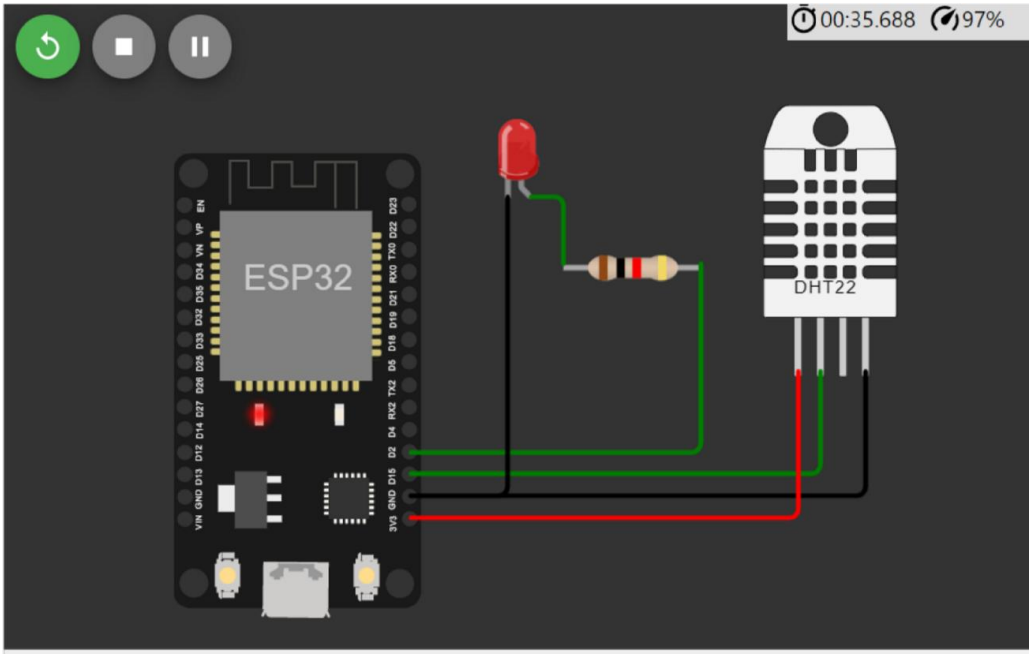
DATE	14 November 2022
TEAM ID	PNT22022TMID14369
PROJECT NAME	Industry - specific intelligent fire management system

PROGRAM:

```
#include <WiFi.h>
#include <PubSubClient.h>
#include "DHT.h"
#define DHTPIN 15
#define DHTTYPE DHT22
#define LED 2
DHT dht (DHTPIN, DHTTYPE);
void callback(char* subscribetopic, byte* payload, unsigned intpayloadLength);
#define ORG "zbgr67"
#define DEVICE_TYPE "NodeMCU"
#define DEVICE_ID "5563"
#define TOKEN "fershiageona"
String data3;
float t;
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/Data/fmt/json";
char subscribetopic[] = "iot-2/cmd/command/fmt/String";
char authMethod[] = "usetoken-auth";
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;

WiFiClient wifiClient;
PubSubClient client(server, 1883, callback ,wifiClient);
void setup(){
  Serial.begin(115200);
  dht.begin();
  pinMode(LED,OUTPUT);
  delay(10);
  Serial.println();
  wificonnect();
  mqttconnect();
}
void loop(){
  t = dht.readTemperature();
  Serial.print("temperature:");
  Serial.println(t);
  PublishData(t);
  delay(1000);
  if(!client.loop()){
    mqttconnect();
  }
}
void PublishData(float temp) {
  mqttconnect();
```

```
  String payload = "{\"temperature\":"; payload += temp; payload += "}";
  Serial.print("Sending payload: ");
  Serial.println(payload);
  if (client.publish(publishTopic, (char*) payload.c_str())) {
    Serial.println("Publish ok");
  }else{
    Serial.println("Publish failed");
  }
}
void mqttconnect() {
  if(!client.connected()){
    Serial.print("Reconnecting client to ");
    Serial.println(server);
    while(!!!client.connect(clientId, authMethod, token)) {
      Serial.print("."); delay(500);
    }
    initManagedDevice();
    Serial.println();
  }
}
void wificonnect(){
  Serial.println();
  Serial.print("Connecting to ");
  WiFi.begin("Wokwi-GUEST", "", 6);
  while(WiFi.status()!=WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
  Serial.println("WiFi connected");
  Serial.println("IP address: ");
  Serial.println(WiFi.localIP());
}
void initManagedDevice() {
  if(client.subscribe(subscribetopic)) {
    Serial.println((subscribetopic));
    Serial.println("subscribe to cmd OK");
  } else {
    Serial.println("subscribe to cmd FAILED");
  }
}
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength) {
  Serial.print("callback invoked for topic: ");
  Serial.println(subscribetopic); for (int i=0;i<payloadLength; i++) {
    (char)payload[i];
  }
  Serial.println("data: "+ data3);
  if(data3=="lighton") {
    Serial.println(data3); digitalWrite(LED,HIGH);
  } else {
    Serial.println(data3); digitalWrite(LED,LOW);
  }
  data3="";
}
```




```
temperature:24.00
Sending payload: {"temperature":24.00}
Publish ok
```