ASSIGNMENT - 4

DATE	17 October 2022
TEAM ID	PNT2022TMID07000
NAME	JAYAMEENAKSHI S
STUDENT ROLL NUMBER	GCTC1918115
MAXIMUM MARKS	2 Marks

QUESTION:

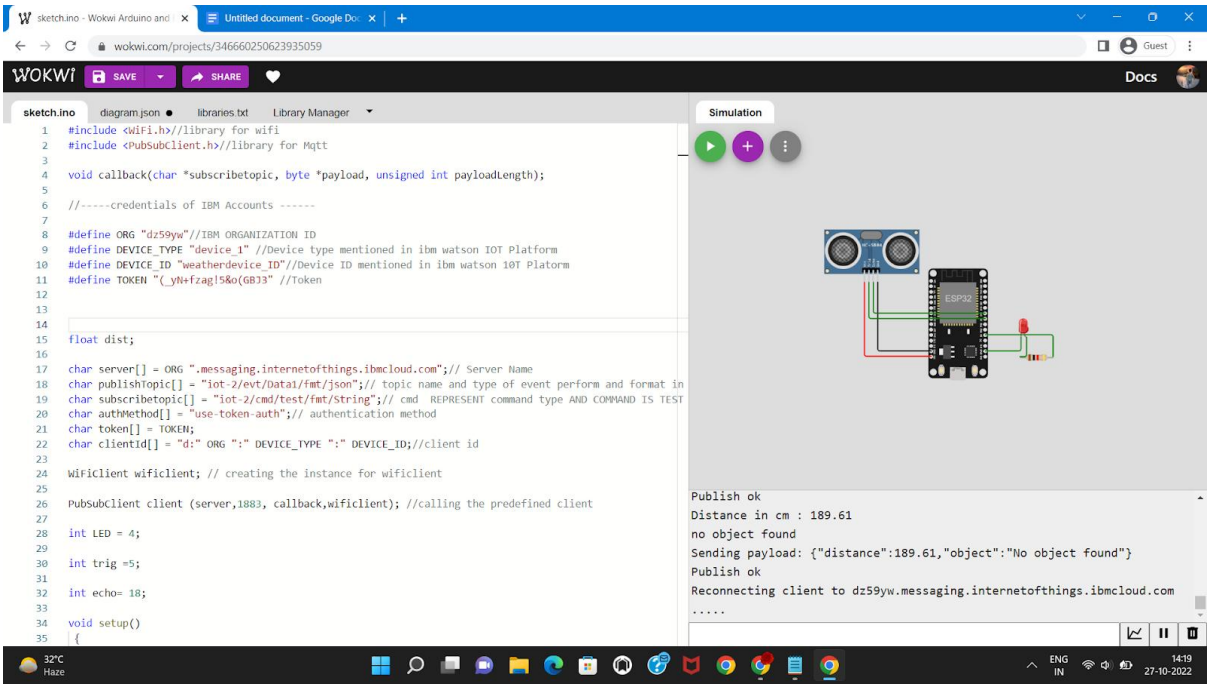
Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.

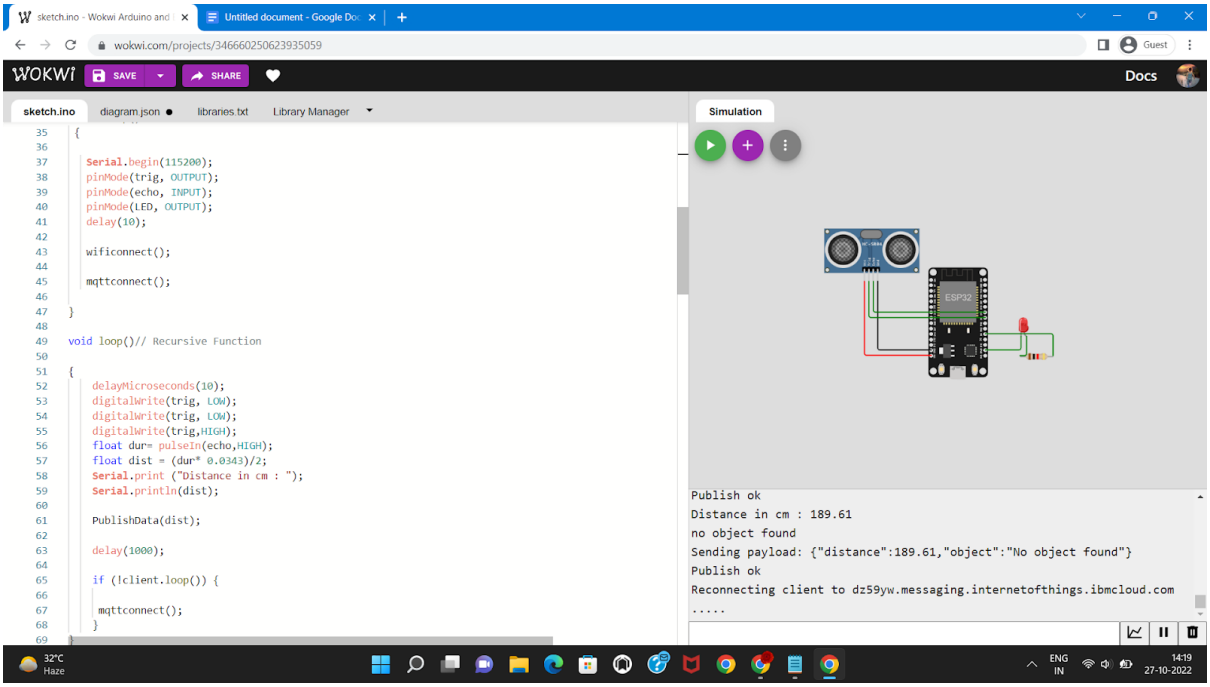
Upload document with wokwi share link and images of ibm cloud

WOKWI CODE AND IMPLEMENTATION LINK:

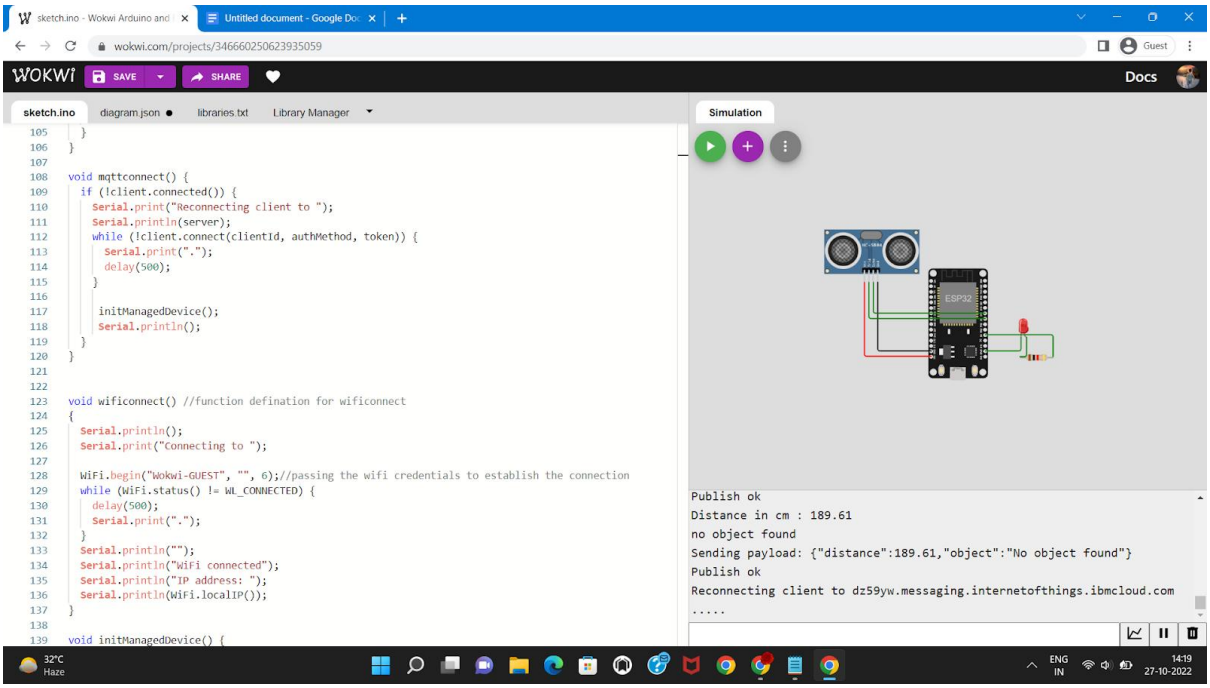
http://wokwi.com/projects/346660250623935059

CODE:

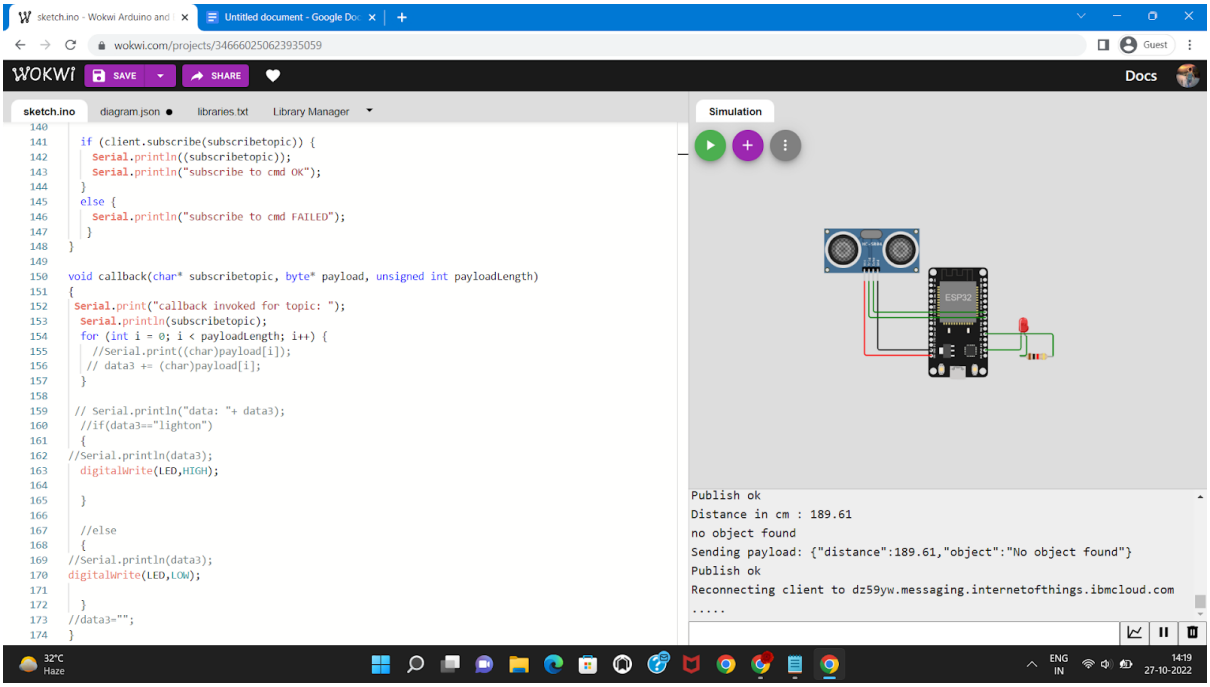





```
{

  Serial.begin(115200);
  pinMode(trig, OUTPUT);
  pinMode(echo, INPUT);
  pinMode(LED, OUTPUT);
  delay(10);

  wificonnect();

  mqttconnect();

}

void loop()// Recursive Function

{
  delayMicroseconds(10);
  digitalWrite(trig, LOW);
  digitalWrite(trig, LOW);
  digitalWrite(trig,HIGH);
  float dur= pulseIn(echo,HIGH);
  float dist = (dur* 0.0343)/2;
  Serial.print ("Distance in cm : ");
  Serial.println(dist);

  PublishData(dist);

  delay(1000);

  if (!client.loop()) {

    mqttconnect();
  }
}
```

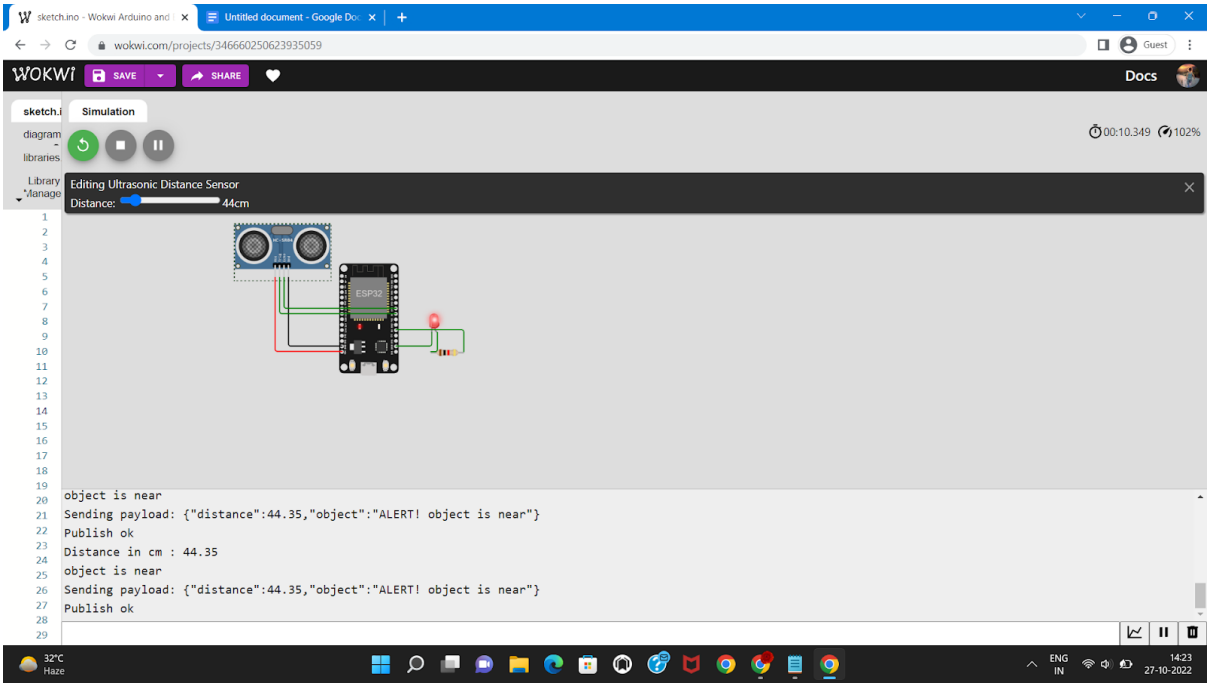



```
  }
}

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() //function defination for wificonnect
{
  Serial.println();
  Serial.print("Connecting to ");

  WiFi.begin("Wokwi-GUEST", "", 6);//passing the wifi credentials to establish the connection
  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() {
```

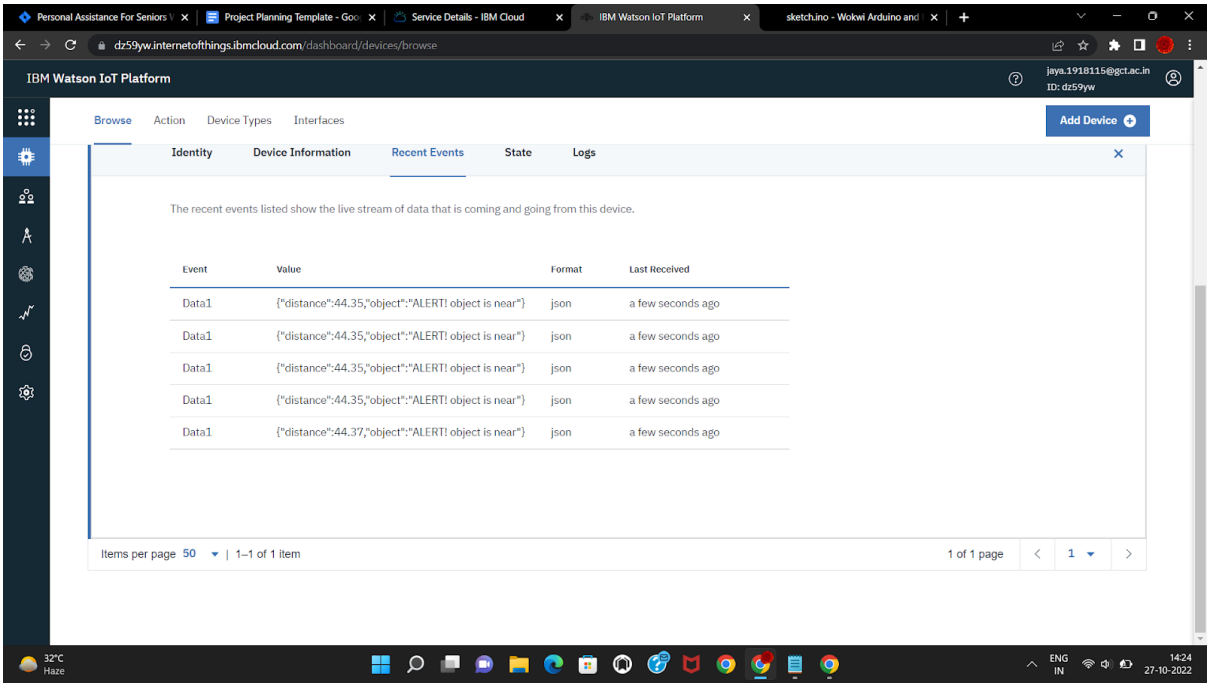


OUTPUT:

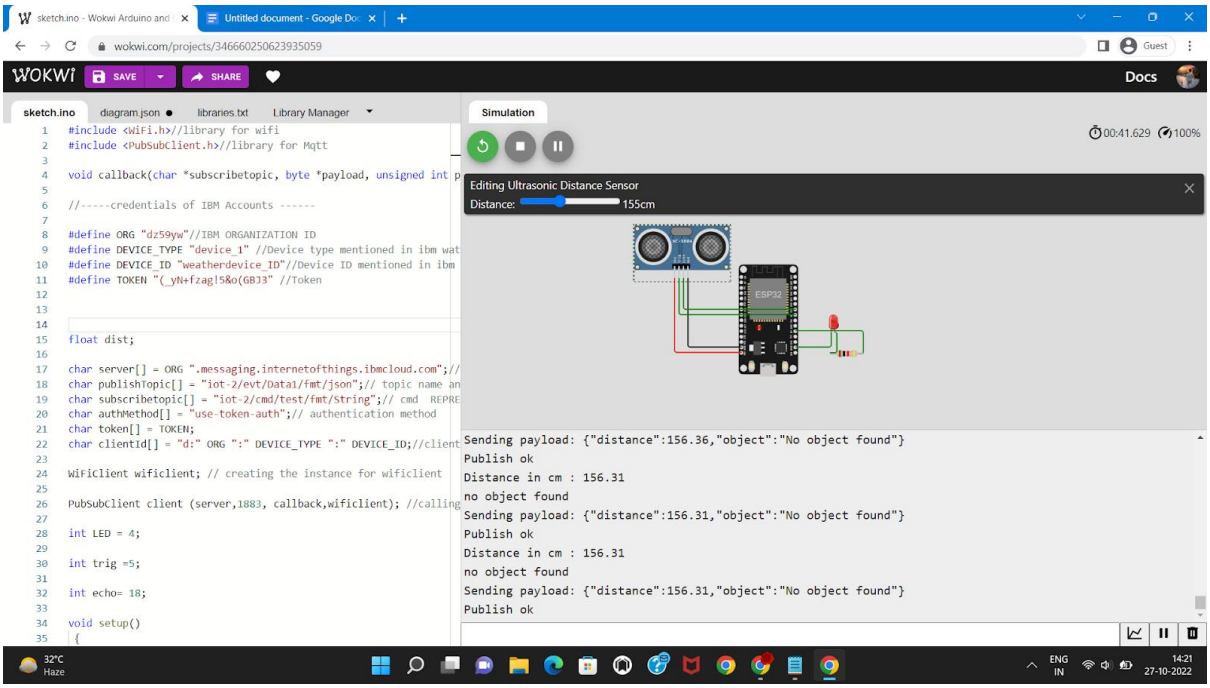
When the distance is less than 100 cms, send an “alert” message to IBM Watson IoT Platform



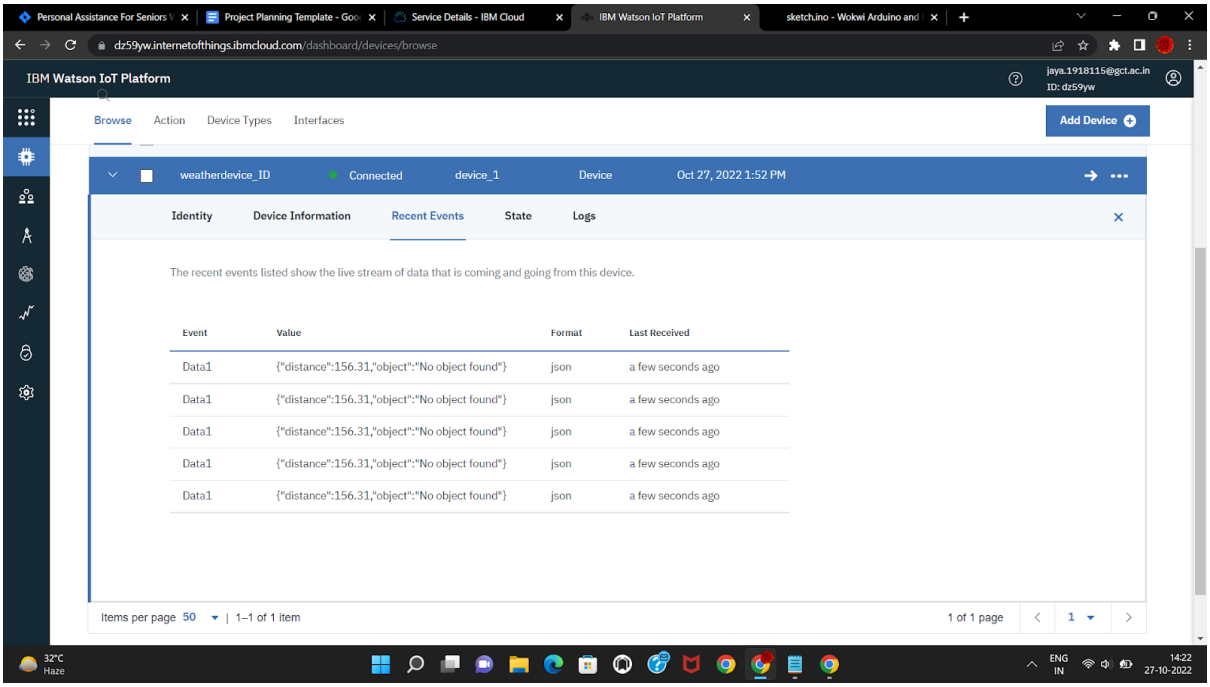
IBM CLOUD IMAGE



When the object is far(greater than 100 cms) , send " no object found" to the IBM Watson IOT Platform.



IBM CLOUD IMAGE


Personal Assistance For Seniors
Project Planning Template - Goo
Service Details - IBM Cloud
IBM Watson IoT Platform
sketch.ino - Wokwi Arduino and
dz59yw.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
jaya.1918115@gct.ac.in
ID: dz59yw
Browse
Action
Device Types
Interfaces
Add Device
weatherdevice_ID
Connected
device_1
Device
Oct 27, 2022 1:52 PM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
Data1
{"distance":156.31,"object":"No object found"}
json
a few seconds ago
Data1
{"distance":156.31,"object":"No object found"}
json
a few seconds ago
Data1
{"distance":156.31,"object":"No object found"}
json
a few seconds ago
Data1
{"distance":156.31,"object":"No object found"}
json
a few seconds ago
Data1
{"distance":156.31,"object":"No object found"}
json
a few seconds ago
Items per page 50
1–1 of 1 item
1 of 1 page
1
32°C
Haze
ENG
IN
14:22
27-10-2022