

Assignment -4
Python Programming

Assignment Date	02 November 2022
Student Name	ALLUGUNDLA MOKSHITHA
Student Roll Number	19103005
Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for the ultrasonic sensor. Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the device recent events. Upload document with wokwi share link and images of IBM cloud.

Solution:

```
const int TRIG_PIN = 7 ;
const int ECHO_PIN = 8;
const unsigned int MAX_DIST = 23200;

void setup() {
  pinMode(TRIG_PIN, OUTPUT);
  digitalWrite(TRIG_PIN, LOW);
  pinMode(ECHO_PIN, INPUT ) ;
  Serial.begin(9600);
}

void loop() {
  unsigned long t1;
  unsigned long t2;
  unsigned long pulse_width;
  float cm;
  float inches;
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  while (digitalRead( ECHO_PIN )==0 );
```

```

t1= micros ();

while (digitalRead(ECHO_PIN) == 1);

t2= micros ();

pulse_width = t2-t1;

cm=pulse_width / 58 ;

inches = pulse_width/148.0;

if (pulse_width >MAX_DIST){

Serial.println("Out of range");

} else {

Serial.println("*****");

Serial.print("The Measured Distance in cm: ");

Serial.println(cm);

if( cm < 100 ){

Serial.println("Alert!!");

}

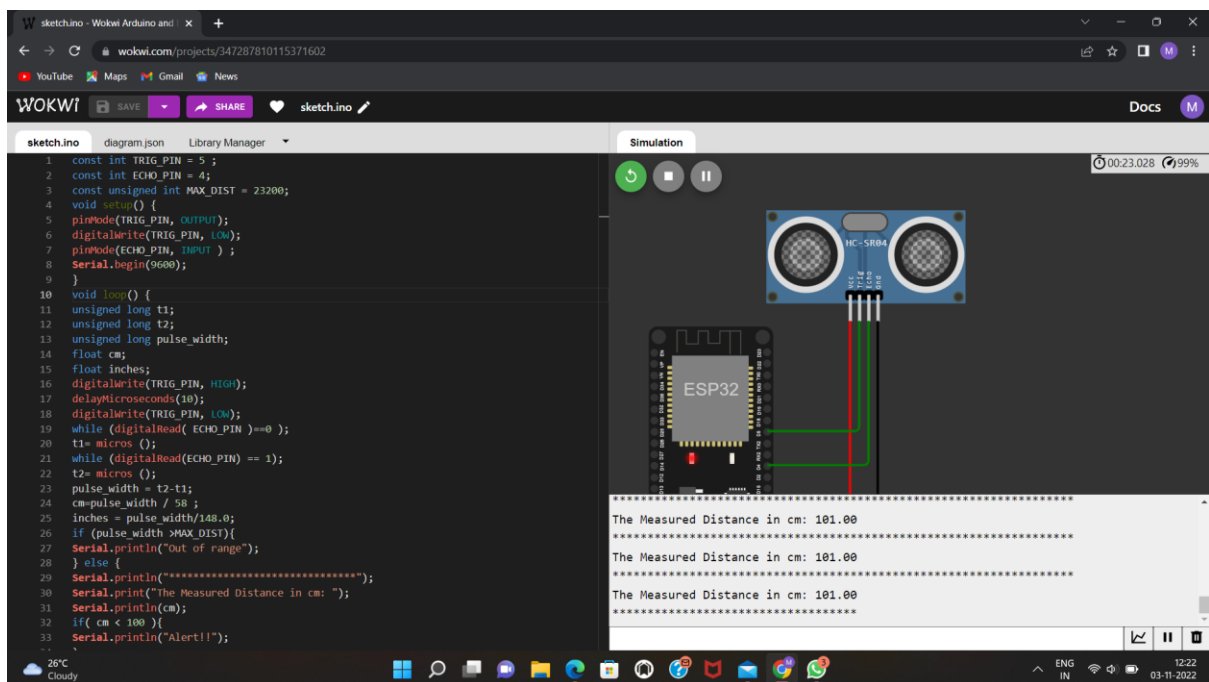
Serial.print("*****");

}

delay(1000);

}

```



Link for WOKWI: <https://wokwi.com/projects/347287810115371602>

The screenshot shows the IBM Cloud Dashboard interface. At the top, there's a navigation bar with the IBM Cloud logo, a search bar, and links for Catalog, Manage, and the user's account (MAMATHA CR's Account). Below the navigation bar, the main section is titled "Dashboard" and includes links for "Edit dashboard", "Upgrade account", and a prominent "Create resource" button. The dashboard features a "For you" section with a "Select an option" dropdown. This section contains six tiles:

- Build**: Explore IBM Cloud with this selection of easy starter tutorials and services.
- Monitor your resources**: Get visibility into the performance and health of your resources. (Getting started, 5 min)
- Create and deploy an application**: Browse our starter kits, and then select one to jump start the process to create and deploy your app. (Getting started, 5 min)
- Db2**: Get enterprise-level OLTP performance, 99.99% uptime SLA, automatic backups, compliance options and encryption at rest with Db2. (Popular, 2 min)
- Discover the Watson Internet of Things (IoT) Platform**: Use the built-in web console dashboards to monitor your IoT data and analyze it in real time. (Getting started, 10 min)
- Create a Kubernetes cluster**: Automate deployments and manage your containerized apps in a native Kubernetes experience. (Getting started, 20 min)