

#### ASSIGNMENT 4

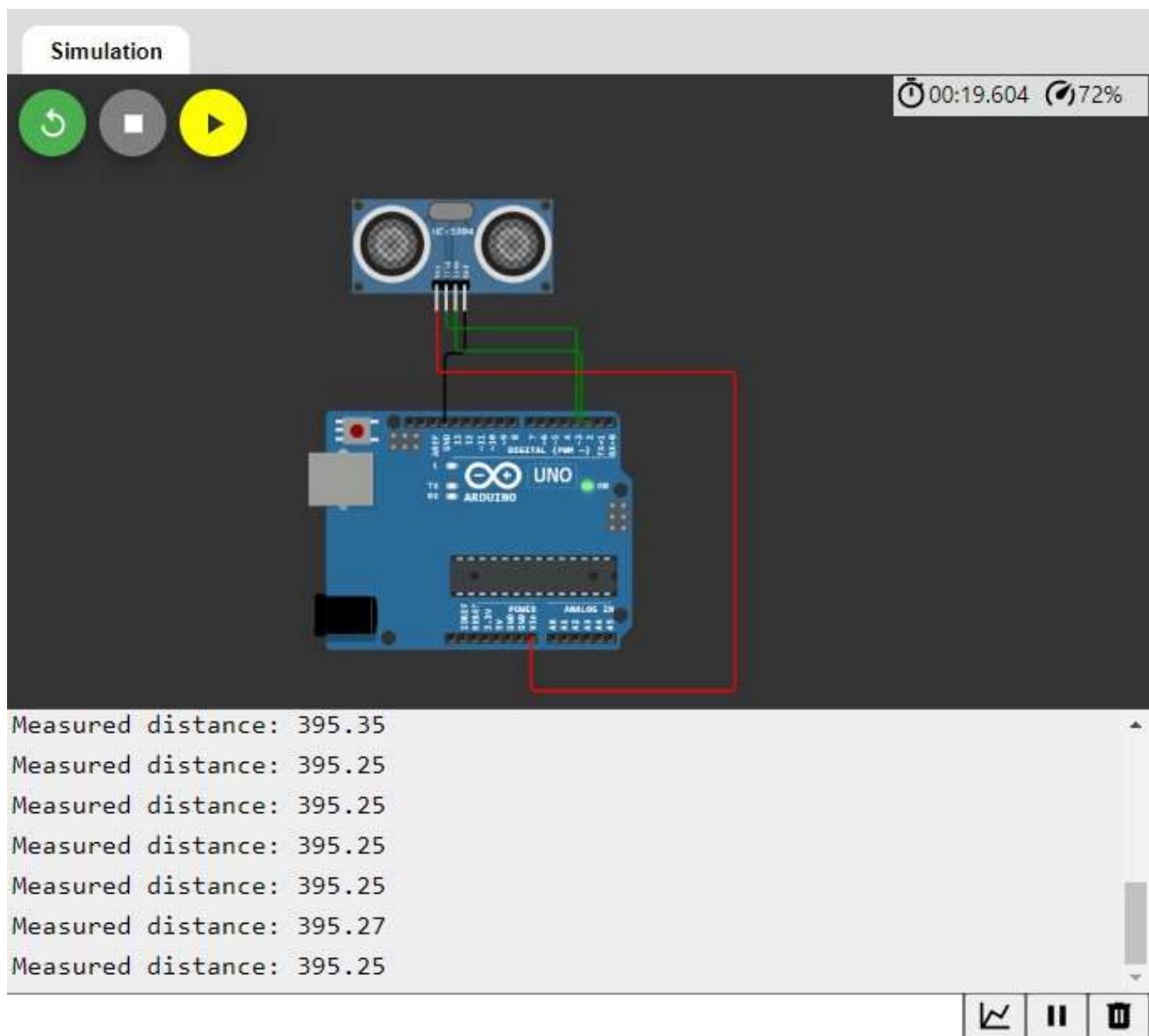
Date	31 October 2022
Team ID	PNT2022TMID18367
Project Name	IoT Based Smart Crop Protection System for Agriculture
Maximum Marks	2 Marks

SOLUTION:

Code:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
void setup() {
Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
int duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;
}
void loop() {
float distance = readDistanceCM();
if(distance <= 100)
{
Serial.println("person detected ");
}
else{
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
}
delay(1000);
}
```

## Simulation:



## IBM WATSON:

The screenshot shows the IBM Watson Device API interface. At the top, there are navigation tabs: Browse, Action, Device Types, and Interfaces. On the far right, there is a blue button labeled "Add Device" with a plus sign. Below the tabs, there are two rows of device information. The first row shows a device with ID 1234, status "Disconnected", type "Ultrasonic", and last update "Oct 26, 2022 8:53 PM". The second row shows a device with ID "Ultrasonic\_1", status "Connected", type "Ultrasonic", and last update "Oct 26, 2022 8:55 PM". To the right of the second row are a refresh icon and a three-dot menu icon. Below these rows is a navigation bar with tabs: Identity, Device Information (which is selected), Recent Events, State, and Logs. A close button (X) is on the far right of the bar. A note below the tabs states: "The recent events listed show the live stream of data that is coming and going from this device." Below this note is a table titled "Recent Events" with columns: Event, Value, Format, and Last Received. The table contains five entries, all of which are identical: "event\_1" with value "[{"status":"person detected"}]", format "json", and last received "a few seconds ago". At the bottom right of the table area, it says "1 Simulation running".

Event	Value	Format	Last Received
event_1	[{"status":"person detected"}]	json	a few seconds ago
event_1	[{"status":"person detected"}]	json	a few seconds ago
event_1	[{"status":"person detected"}]	json	a few seconds ago
event_1	[{"status":"person detected"}]	json	a few seconds ago
event_1	[{"status":"person detected"}]	json	a few seconds ago