Assignment -4

Python Programming

Assignment Date	17 October 2022
Student Name	Shalini S
Student Roll Number	211419106250
Maximum Marks	2 Marks

Question-1:

Write python 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.

Solution:

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)

GPIO_ECHO = 13
GPIO_TRIG = 11

GPIO.setup(GPIO_ECHO, GPIO.IN)
GPIO.setup(GPIO_TRIG, GPIO.OUT)

GPIO.output(GPIO_TRIG, GPIO.LOW)
Time.sleep(2)

GPIO.output(GPIO_TRIG, GPIO.HIGH)
time.sleep(0.00001)
GPIO.output(GPIO_TRIG, GPIO.LOW)

while GPIO.input(GPIO_ECHO)==0:
    start_time = time.time()

while GPIO.input(GPIO_ECHO)==1:
    Bounce_back_time = time.time()

pulse_duration = Bounce_back_time - start_time
distance = round(pulse_duration * 17150, 2)
print (f"Distance: {distance} cm")

while True:
   if distance < 100 :
      print('!!!!!!!!!!  Alert  !!!!!!!!!!')
```

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while GPIO.input(GPIO_ECHO)==0:
    start_time = time.time()

while GPIO.input(GPIO_ECHO)==1:
    Bounce_back_time = time.time()

pulse_duration = Bounce_back_time - start_time
distance = round(pulse_duration * 17150, 2)
print (f"Distance: {distance} cm")
#print ("Distance:",distance,"cm")

while True:
    if distance < 100 :
        print('!!!!!!!!!!  Alert  !!!!!!!!!!')
```