IBM ASSIGNMENT-4
TOPIC: Python code for connections in wokwi for the ultrasonic sensor

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Source code:

```
import machine, time
from machine import Pin

__version__ = '0.2.0'
__author__ = 'Roberto Sánchez'
__license__ = "Apache License 2.0.
https://www.apache.org/licenses/LICENSE-2.0"

class HCSR04:
def __init__(self, trigger_pin, echo_pin, echo_timeout_us=500*2*30):
self.echo_timeout_us = echo_timeout_us
self.trigger = Pin(trigger_pin, mode=Pin.OUT, pull=None)
self.trigger.value(0)
self.echo = Pin(echo_pin, mode=Pin.IN, pull=None)
def _send_pulse_and_wait(self):
self.trigger.value(0)
time.sleep_us(5)
self.trigger.value(1)
time.sleep_us(10)
```

```python
        self.trigger.value(0)
        try:
            pulse_time = machine.time_pulse_us(self.echo, 1, self.echo_timeout_us)
            return pulse_time
        except OSError as ex:
            if ex.args[0] == 110: # 110 = ETIMEDOUT
                raise OSError('Out of range')
            raise ex

    def distance_mm(self):
        pulse_time = self._send_pulse_and_wait()
        mm = pulse_time * 100 // 582
        return mm

    def distance_cm(self):
        pulse_time = self._send_pulse_and_wait()
        cms = (pulse_time / 2) / 29.1
        return cms
```