

Assignment 2

Python Programming

AssignmentDate	30 September2022
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Question-1:

Build the python program assume that temperature and humidity values (generated with random function to a variable) and write a condition to continuously detect alarm in case of high temperature.

Solution:

```
import time
import temp_DHT
period = 60 ## Sensor data reporting period (1 minute)
pin = 4 ## Assuming the DHT11 sensor is connected to GPIO pin number 4

temp_resource = Resource(bbt, 'RaspberryPi', 'temperature')
humid_resource = Resource(bbt, 'RaspberryPi', 'humidity')

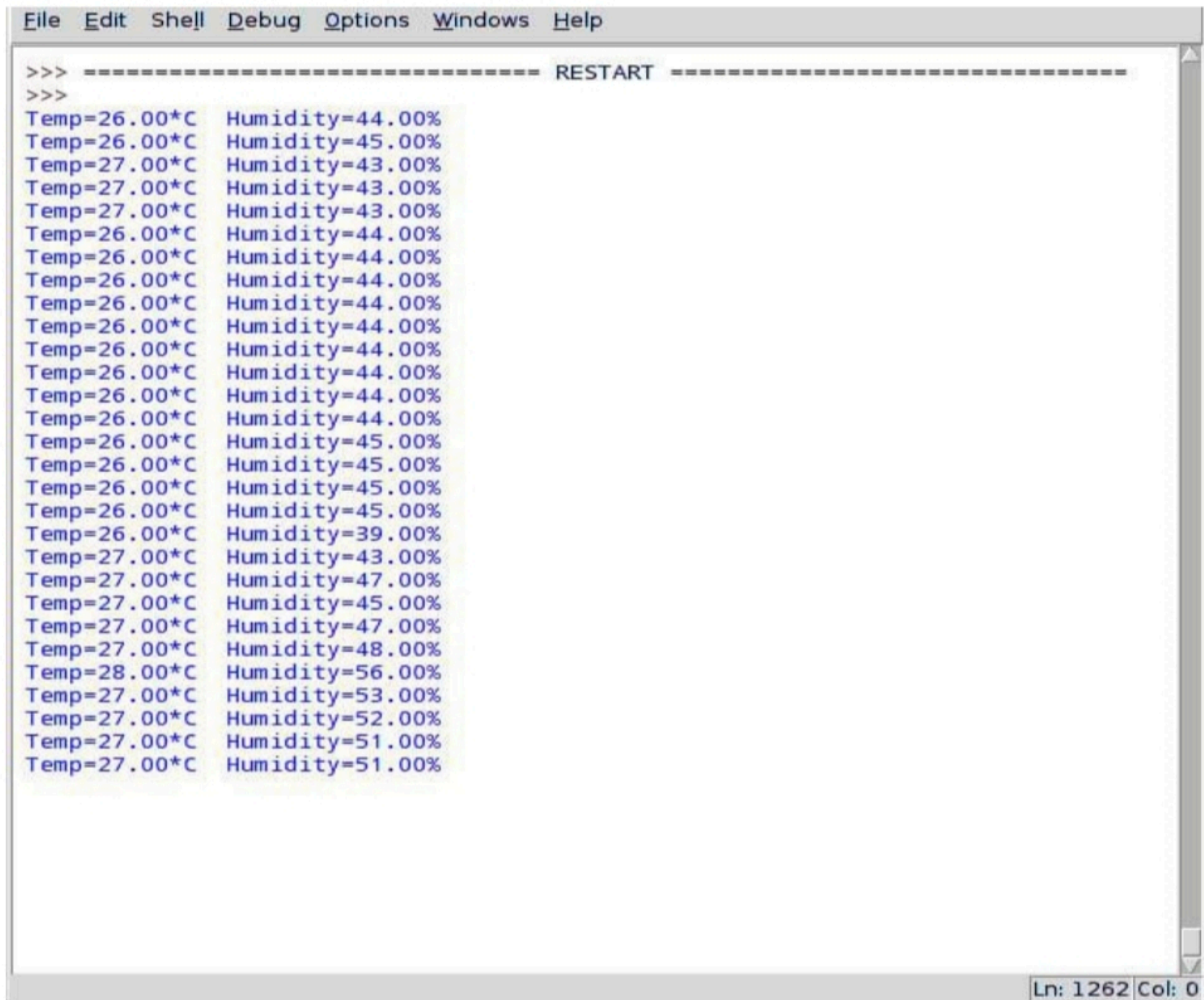
def run():
    while True:
        ### Assume humidity, temperature = temp_DHT.read_retry( temp_DHT.DHT11, pin )
        if humidity is not None and temperature is not None:
            print "Temp={0:f}*C Humidity={1:f}%".format(temperature, humidity)
            try:
                #Send temperature to Beebotte
                temp_resource.write(temperature)
                #Send humidity to Beebotte
                humid_resource.write(humidity)
            except Exception:
                ## Process exception here
                print "Error while writing to Beebotte"
        else:
```



```
print "Failed to get reading. Try again!"
```

```
#Sleep some time  
time.sleep( period )
```

OUTPUT

A screenshot of a terminal window with a menu bar (File, Edit, Shell, Debug, Options, Windows, Help) and a status bar (Ln: 1262 Col: 0). The terminal displays the output of a program. It starts with a prompt '>>>' followed by a dashed line and the word 'RESTART'. After another prompt '>>>', it lists 30 pairs of temperature and humidity readings. The first 15 pairs have temperatures of 26.00°C and humidities of 44.00% or 45.00%. The next 10 pairs have temperatures of 26.00°C and humidities of 45.00% or 39.00%. The final 5 pairs have temperatures of 27.00°C and humidities of 43.00%, 47.00%, 45.00%, 48.00%, and 51.00% respectively.

```
File Edit Shell Debug Options Windows Help  
>>> ===== RESTART =====  
>>>  
Temp=26.00°C Humidity=44.00%  
Temp=26.00°C Humidity=45.00%  
Temp=27.00°C Humidity=43.00%  
Temp=27.00°C Humidity=43.00%  
Temp=27.00°C Humidity=43.00%  
Temp=26.00°C Humidity=44.00%  
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Temp=26.00°C Humidity=45.00%  
Temp=26.00°C Humidity=39.00%  
Temp=27.00°C Humidity=43.00%  
Temp=27.00°C Humidity=47.00%  
Temp=27.00°C Humidity=45.00%  
Temp=27.00°C Humidity=47.00%  
Temp=27.00°C Humidity=48.00%  
Temp=28.00°C Humidity=56.00%  
Temp=27.00°C Humidity=53.00%  
Temp=27.00°C Humidity=52.00%  
Temp=27.00°C Humidity=51.00%  
Temp=27.00°C Humidity=51.00%
```

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