

TEMPERATURE AND HUMIDITY CHECK

WOKWI LINK:

<https://wokwi.com/projects/364179192617944065>

PROGRAM :

```
import random import time from  
machine import Pin, PWM, ADC
```

```
TEMP_THRESHOLD = 30
HUMIDITY_THRESHOLD = 70
```

```
BUZZER_PIN = 5
BUZZER_FREQ = 2000 BUZZER_DUTY = 512 buzzer =
PWM(Pin(BUZZER_PIN), freq=BUZZER_FREQ, duty=0)
```

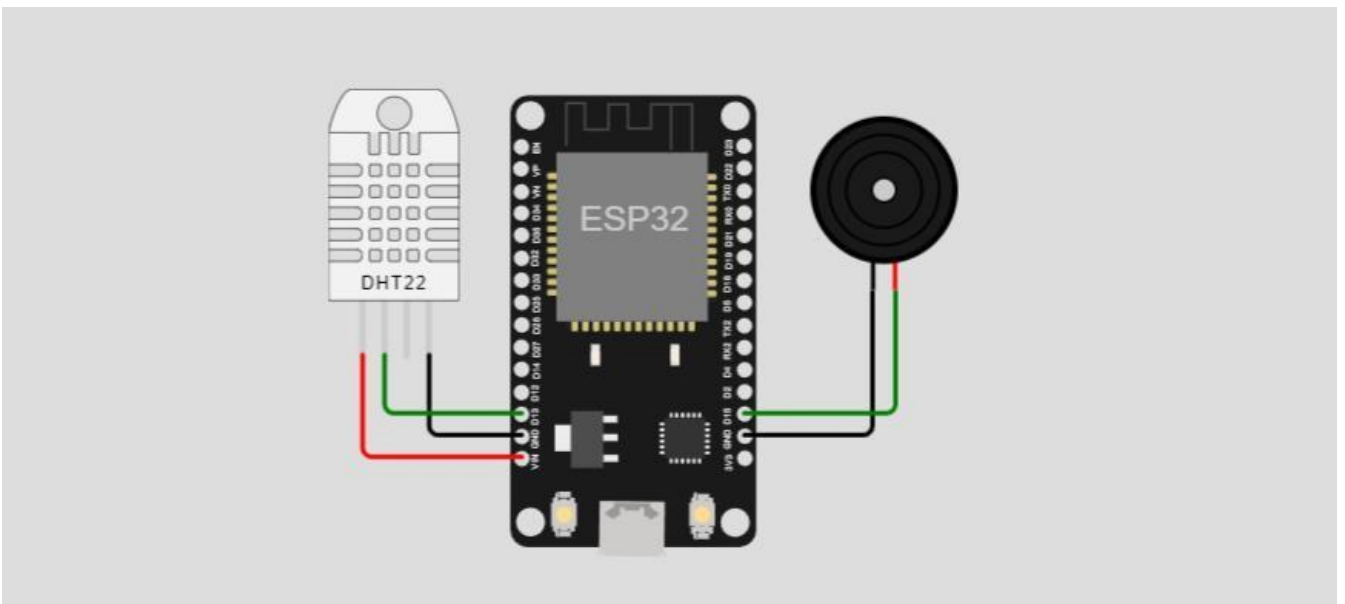
```
HUMIDITY_PIN = 34
TEMPERATURE_PIN = 35 adc =
ADC(Pin(HUMIDITY_PIN))
adc.atten(ADC.ATTN_11DB)
```

```
while True:          temperature =
random.uniform(10, 45)    humidity =
adc.read() / 4095 * 100
    print("Temperature: {:.2f} C, Humidity:
{:.2f}
%".format(temperature, humidity))
```

```
    if temperature > TEMP_THRESHOLD or humidity >
HUMIDITY_THRESHOLD:      print("ALARM! Temperature or
Humidity is too high!")
```

```
        buzzer.duty(BUZZER_DUTY)
time.sleep(0.5)          buzzer.duty(0)
time.sleep(0.5)
    time.sleep(1)
```

CONNECTION DIAGRAM:



OUTPUT:

```
Temperature: 19.46 C, Humidity: 48.69 %
Temperature: 25.74 C, Humidity: 44.00 %
Temperature: 25.98 C, Humidity: 46.30 %
Temperature: 21.86 C, Humidity: 47.77 %
Temperature: 10.09 C, Humidity: 49.89 %
Temperature: 15.45 C, Humidity: 47.06 %
Temperature: 33.75 C, Humidity: 51.75 %
ALARM! Temperature or Humidity is too high!
Temperature: 15.60 C, Humidity: 55.07 %
Temperature: 38.41 C, Humidity: 53.68 %
ALARM! Temperature or Humidity is too high!
Temperature: 30.46 C, Humidity: 49.79 %
ALARM! Temperature or Humidity is too high!
Temperature: 25.62 C, Humidity: 51.77 %
Temperature: 21.74 C, Humidity: 50.26 %
Temperature: 16.44 C, Humidity: 47.30 %
Temperature: 24.02 C, Humidity: 49.43 %
Temperature: 21.18 C, Humidity: 48.55 %
Temperature: 10.50 C, Humidity: 46.69 %
Temperature: 30.29 C, Humidity: 44.86 %
ALARM! Temperature or Humidity is too high!
Temperature: 38.00 C, Humidity: 46.50 %
ALARM! Temperature or Humidity is too high!
Temperature: 36.55 C, Humidity: 47.13 %
ALARM! Temperature or Humidity is too high!
Temperature: 40.82 C, Humidity: 43.81 %
ALARM! Temperature or Humidity is too high!
Temperature: 40.92 C, Humidity: 47.28 %
```

