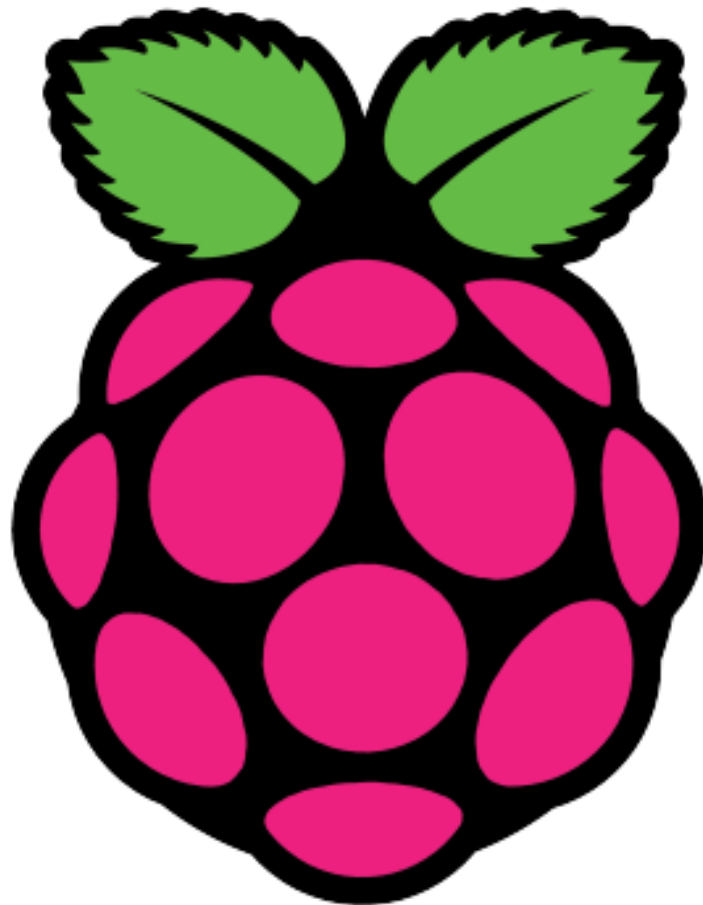


“Raspberry pi course”

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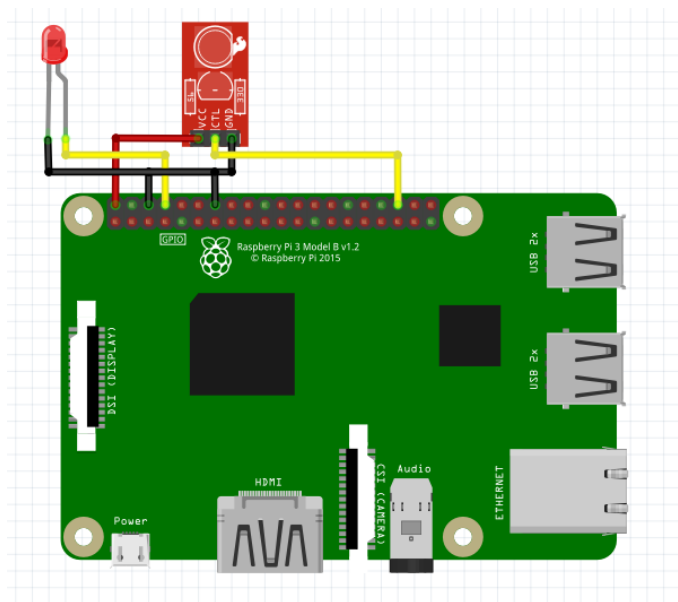
SESSION NO.“2”

- IR SENSOR
- DHT SENSOR
- LDR RESISTOR

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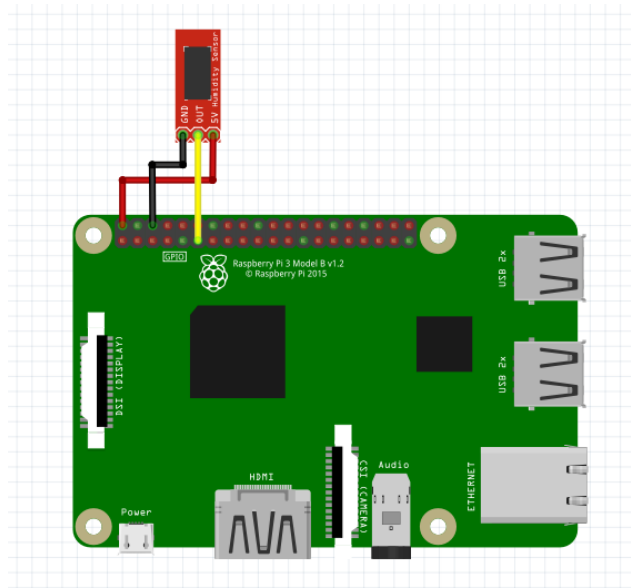
IR SENSOR



EXAMPLE CODE :

```
import RPi.GPIO as GPIO
import time
sensor_input = 16
GPIO.setmode(GPIO.BCM)
GPIO.setwarnings(False)
GPIO.setup(16,GPIO.IN)
GPIO.setup(14,GPIO.OUT)
while True:
    x = GPIO.input(sensor_input)
    print("IR SIGNAL : ",x)
    if x == 1 :
        print ("led on")
        GPIO.output(14,GPIO.HIGH)
    else:
        print ("led off")
        GPIO.output(14,GPIO.LOW)
```

DHT SENSOR



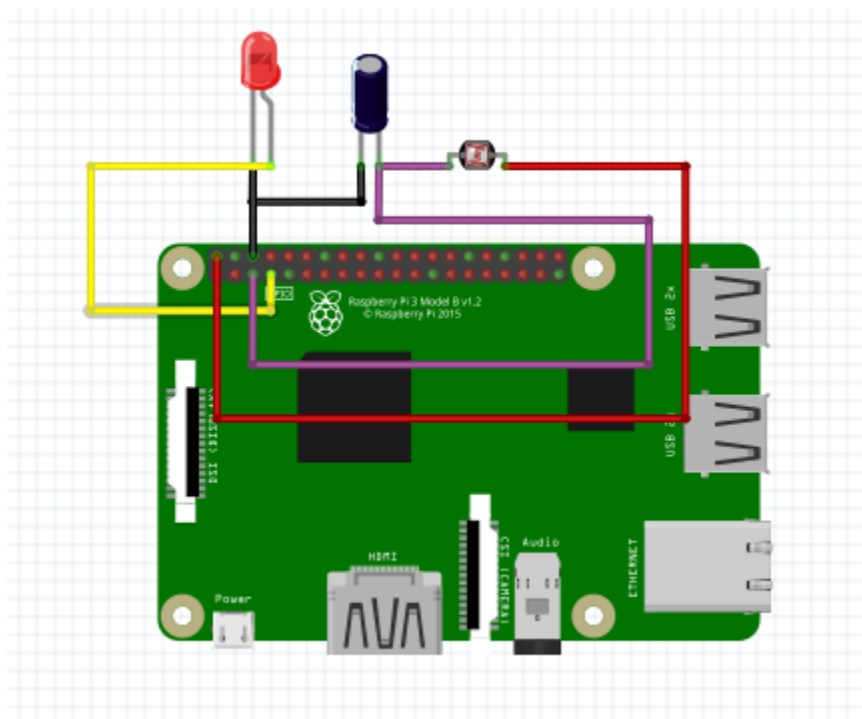
THE FIRST & EASIEST WAY

1. `sudo apt-get update`
2. `sudo apt-get install build-essential python-dev`
3. `git clone https://github.com/adafruit/Adafruit_Python_DHT.git`
4. `cd Adafruit_Python_DHT`
5. `sudo python setup.py install`
6. `sudo python3 setup.py install`
7. `cd examples`
8. `python AdafruitDHT.py 11 17` (11 represents the type of the sensor & 17 represents the pin connection)

THE SECOND WAY USING EXAMPLE CODE :

```
import sys
import Adafruit_DHT
import time
while True:
    humidity, temperature = Adafruit_DHT.read_retry(11, 14)
    print 'Temp: {0:0.1f} C Humidity: {1:0.1f} %'.format(temperature, humidity)
    time.sleep(1)
```

LDR RESISTOR



EXAMPLE CODE :

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BOARD)
GPIO.setwarnings(False)
delayt = .1
value = 0 # this variable will be used to store the ldr value
ldr = 7 #ldr is connected with pin number 7
led = 11 #led is connected with pin number 11
GPIO.setup(led, GPIO.OUT) # as led is an output device so that's why we set it to output.
GPIO.output(led, False) # keep led off by default
def rc_time (ldr):
    count = 0
    #Output on the pin for
    GPIO.setup(ldr, GPIO.OUT)
    GPIO.output(ldr, False)
    time.sleep(delayt)
    #Change the pin back to input
    GPIO.setup(ldr, GPIO.IN)
    #Count until the pin goes high
    while (GPIO.input(ldr) == 0):
        count += 1
    return count
#Catch when script is interrupted, cleanup correctly
try:
```

```
# Main Loop
while True:
    print("Ldr Value:")
    value = rc_time(ldr)
    print(value)
    if ( value >= 20000 ):
        print("Lights are ON")
        GPIO.output(led, True)
    if (value < 20000):
        print("Lights are OFF")
        GPIO.output(led, False)
except KeyboardInterrupt:
    pass
finally:
    GPIO.cleanup()
```

With my best wishes:

ENG : AHMED MUBARAK
