Adafruit Ultimate GPS

* Wiki: <https://cdn-learn.adafruit.com/downloads/pdf/adafruit-ultimate-gps.pdf>

DHT11

* <http://www.circuitbasics.com/how-to-set-up-the-dht11-humidity-sensor-on-an-arduino/>

#include <dht.h>

dht DHT;

#define DHT11\_PIN 7

void setup(){

Serial.begin(9600);

}

void loop()

{

int chk = DHT.read11(DHT11\_PIN);

Serial.print("Temperature = ");

Serial.println(DHT.temperature);

Serial.print("Humidity = ");

Serial.println(DHT.humidity);

delay(1000);

}

DHT22

* <https://create.arduino.cc/projecthub/mafzal/temperature-monitoring-with-dht22-arduino-15b013?ref=tag&ref_id=dht22&offset=0>

/\* How to use the DHT-22 sensor with Arduino uno

Temperature and humidity sensor \*/

//Libraries

#include <DHT.h>;

//Constants

#define DHTPIN 7 // what pin we're connected to

#define DHTTYPE DHT22 // DHT 22 (AM2302)

DHT dht(DHTPIN, DHTTYPE); //// Initialize DHT sensor for normal 16mhz Arduino

//Variables

int chk;

float hum; //Stores humidity value

float temp; //Stores temperature value

void setup(){

Serial.begin(9600);

dht.begin();

}

void loop(){

delay(2000);

//Read data and store it to variables hum and temp

hum = dht.readHumidity();

temp= dht.readTemperature();

//Print temp and humidity values to serial monitor

Serial.print("Humidity: ");

Serial.print(hum);

Serial.print(" %, Temp: ");

Serial.print(temp);

Serial.println(" Celsius");

delay(10000); //Delay 2 sec.

}

GNU Radio

* <https://wiki.gnuradio.org/index.php/Guided_Tutorial_GNU_Radio_in_Python>
* Vocabs:
  + OOT : Out of Tree Modules
  + blocks that you inserted in the original block setting
  + GRC: GNU Radio Companion (GNU Radio's graphical tool)
  + <https://wiki.gnuradio.org/index.php/Guided_Tutorial_GRC>
  + Objectives
    - Python Blocks
    - OOT modules make the actual apps / functionality (GR is the API!)
    - How to add OOTs
    - How to add Python blocks with gr\_modtool and how to code them
    - QPSK mapping
    - How to add GRC bindings for block

High Level Trigger

* DC 5V 1-Channel high Level Trigger Relay Module EXAMPLE CODE

<https://ardubotics.eu/en/relay-led-controllers/1099-dc-5v-1-channel-high-level-trigger-relay-module.html>

* stack about relay mode

<https://electronics.stackexchange.com/questions/202680/relay-what-is-the-difference-between-low-level-trigger-and-high-level-trigger>

* how to use

<https://www.youtube.com/watch?v=iLC3isr7knQ>

Solenoid Valve link:

* <https://www.bc-robotics.com/tutorials/controlling-a-solenoid-valve-with-arduino/>
* Open when current flows regardless of pin

VH400

* Soil moisture sensor
* Official Site : <https://vegetronix.com/Products/VH400/>
* How to use : <https://www.cheapvegetablegardener.com/how-to-use-vegetronix-soil-moisture/>
* Unit of measurement: VWC - Volumetric Water Content
* Soil is usually less than 50% - connected to 3.3V