JumpStarts IoT Session 1

Students

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Topics

Discuss about kits

- NodeMCU
- Breadboard
- Passive compnents
- How to use the NodeMCU board?

Basic Electronic Components

ref : https://www.alliedcomponents.com/blog/essential-electronic-components-functions/

- Types of Switches (https://www.electronicshub.org/switches/)
- Potentiometers (https://www.electronics-tutorials.ws/resistor/potentiometer.html)
- Crystal Oscillator (https://www.electronics-tutorials.ws/oscillator/crystal.html)
- Pull-Up/Pull Down (https://www.electronics-tutorials.ws/logic/pull-up-resistor.html)

Common Peripherals

- Voltage Regulator 7805 - (https://www.electronicshub.org/understanding-7805-ic-voltage-regulator/)
- Shift Register (https://www.electronics-tutorials.ws/sequential/seq_5.html)
- RTC (https://www.electronics-tutorials.ws/connectivity/real-time-clocks.html)
- Motor Driver L293D (https://components101.com/l293d-pinout-features-datasheet)
- Relay (https://www.electronics-tutorials.ws/io/io_5.html)
- Analog to Digital Converter (https://www.electrical4u.com/analog-to-digital-converter/)

Doubts :

- Shift Register
- RTC

Arduino Basics

YouTube Videos

- Overview (https://www.youtube.com/watch?v=nL34zDTPkcs)
- Jeremy Blum [Very Old but good explanation] (https://www.youtube.com/playlist?list=PLA567CE235D39FA84)
- Core Electronics (https://www.youtube.com/playlist?list=PLPK2l9Knytg5s2dk8V09thBmNl2g5pRSr)

Main Reference

- https://playground.arduino.cc/

Arduino IDE Config

- Download (https://www.arduino.cc/en/Main/Software)
- Go to File -> Preferences
- Enter ESP8266 Board Manager URL (http://arduino.esp8266.com/stable/package_esp8266com_index.json)
- Go to Tools -> Board Manager and Install esp8266 core

TinkerCAD

- https://www.tinkercad.com/
- Sign In
- Circuits

Task 1 : Blink without delay()

- https://www.arduino.cc/en/tutorial/BlinkWithoutDelay