Raspberry Pi Part II

A tentative Syllabus for our hands-on classes with the Raspberry Pi

Updated: March 5, 2018

1. Getting to Know the GPIO
    1. Connecting an LED
        1. Ohm's Law
        2. Single LED, Resistors in Series
        3. Two LEDs in parallel
            A) Independent Load
            B) Load Sharing
    2. Leaving the GPIOs Pins in a Safe State
    3. Controlling the Brightness of an LED
    4. Making a Buzzer
2. Sensors
    1. Measuring Light
    2. Measuring Temperature
    3. Measuring Distance
    4. The Sense HAT
        1. Measuring Temperature, Humidity and Pressure
        2. Finding the Magnetic North
    5. Displaying Sensor Values
3. Projects:
    1. Computer Vision
        A) Counting Coins
        B) Face Detection
        C) Motion Detection
        D) Optical Character Recognition
    2. Motors
    3. The Internet of Things (IoT)
        1. Controlling GPIOs using a Web page
        2. Display Sensor Reading on a web page
        3. Sending Emails & Other Notifications
        4. Cheerligths

Bibliography

1. *The Raspberry Pi Cookbook*, by Simon Monk, Reilly Media, 2016.