CS/INF4MTX 244 Fall 2017
Project Assignment #1
Due: 10/18, 23:59 p.m.

Assignment Objective:
Set up the environments, connect the ESP board to the server, and transmit test data

- Write a report on procedure to connect ESP wifi to the router and successfully transmit data to the server
- Create your own server side program to receive data

Task outline:

- Setup your hardware
- Write a code for the board, which includes
    - Connect to WiFi
    - Transmit data to the server
- Setup your server environment
    - build your Apache environment
        - on your machine, or
        - run your virtual machine using Microsoft Azure / Amazon Web Services
        - Installing Apache and PHP
        - Enable apache to run PHP code with LoadModule directive in httpd.conf
          - LoadModule php5_module modules/libphp5.so
    - Write a code to receive and store data from the board

Deliverables:
Submit to eee dropbox "**244 Project #1"**

1. GitHub link
    - Create a repository named CS244Fall2017
    - Create a subfolder Assignment#1 and upload your src to there
    - Be careful not to submit your credentials like SSID/WiFi password or any other important information
        1. Separate it from main file (e.g. as "secrets.h") and commit only main code to the assignment submission folder or
        2. Mask it as ***
2. Report describing procedure for capture and transmission of data to server, including how you:
    - Connect ESP wifi to the router and transmit data to the server

- Handle data on server
- Report should describe the following
    1. Protocol you used in message transmission
    2. Overall Process sequence: how you put data to your connection and extract it. You may use diagram/flowcharts/text, but make sure it is easy to read.

Notes:
You need to add SparkFun Thing's MAC address when you connect to UCI network
http://apps.oit.uci.edu/mobileaccess/registration/

ESP8266WiFi.h provides macAddress() function and you can check the MAC address.