# Signatures

You will be experimenting with various aspects of WICED WiFi by completing the exercises below. Labs are marked as “Basic” and “Advanced”. You should make sure you complete at least the basic exercises before moving on to the next section. Work on the advanced exercises as time allows.

Once you complete an exercise, demonstrate it to one of the instructors to get their signature on this page.

| **Initials** | **Chapter** | **Exercise** | **Category** | **Description** |
| --- | --- | --- | --- | --- |
|  | N/A | N/A | Basic | Verify “CheckMySetup” installation |
|  | 01 (Survey) | 01 | Basic | Create a Forum Account |
|  | 01 | 02 | Basic | Open the WICED Documentation |
|  | 02 (Peripherals) | 01 | Basic | Install BCM94343W\_AVN platform files |
|  | 02 | 02 | Basic | Setup a new project from a template |
|  | 02 | 03 | Basic | Blink an LED |
|  | 02 | 04 | Advanced | Toggle a pin that isn’t pre-initialized |
|  | 02 | 05 | Basic | Read an input pin |
|  | 02 | 06 | Basic | Use a pin interrupt |
|  | 02 | 07 | Advanced | Adjust LED brightness |
|  | 02 | 08 | Basic | Read ambient light sensor using the ADC  Use debug printing functions |
|  | 02 | 09 | Advanced | Write data using the standard UART functions |
|  | 02 | 10 | Advanced | Read data using the standard UART functions |
|  | 02 | 11 | Advanced | Use an I2C master to write data to the shield |
|  | 02 | 12 | Advanced | Use an I2C master to read sensor data from the shield |
|  | 02 | 13 | Advanced | Probe the I2C bus for any attached devices |
|  | 02 | 14 | Advanced | Make/modify platform files for the shield |
|  | 03 (RTOS) | 01 | Basic | Create an LED blink thread |
|  | 03 | 02 | Basic | Use a semaphore |
|  | 03 | 03 | Advanced | Use a MUTEX |
|  | 03 | 04 | Advanced | Use a Queue |
|  | 03 | 05 | Advanced | Use a Timer |
|  | 05 (WiFi) | 01 | Basic | Attach to an open network |
|  | 05 | 02 | Basic | Attach to a WPA2 PSK network |
|  | 05 | 03 | Basic | Print network information to a terminal |
|  | 05 | 04 | Advanced | Switch between 2 networks within the application |
|  | 06 | 01 | Basic | Implement a client to write data to the server using TCP packets |
|  | 06 (Sockets / TLS) | 02 | Basic | Modify the client to inspect return code from the server |
|  | 06 | 03 | Advanced | Modify the client to use a TCP stream |
|  | 06 | 04 | Advanced | Implement the server for a single TCP connection |
|  | 06 | 05 | Advanced | Implement the server to use TCP call back functions |
|  | 06 | 06 | Advanced | Implement the server to support multiple connections |
|  | 06 | 07 | Advanced | Modify the server and client to use TLS |
|  | 07b (Cloud / MQTT) | 01 | Basic | Provision a new *thing* in the AWS IOT cloud and test |
|  | 07b | 02 | Basic | Build and test the publisher demo |
|  | 07b | 03 | Basic | Explain the publisher demo firmware flow |
|  | 07b | 04 | Basic | Build and test the subscriber demo |
|  | 07b | 05 | Advanced | Implement the publisher and subscriber in 2 different kits and test |
|  | 07b | 06 | Advanced | Build and test the shadow demo |