

* Project: Electrical Applicator for TSP

* Description: Everything is handled through software, all of the buttons (suppose to represent a physical light switch), but it gives

* a user a physical way to turn on the lights. Also everything can be handled through software by sending specific characters to the arduino using the serial connection.

* To turn on the LEDs, send the following Characters:

* q - Turns on all LED's

* w - Turns on LED 2

* e - Turns on LED 3

* r - Turns on LED 4

* t - Turns on LED 5

* y - Turns on LED 6

* u - Turns on LED 7

*

* To turn off the LEDs, send the following Characters:

* a - Turns off all LED's

* s - Turns off LED 2

* d - Turns off LED 3

* f - Turns off LED 4

* g - Turns off LED 5

* h - Turns off LED 6

* j - Turns off LED 7

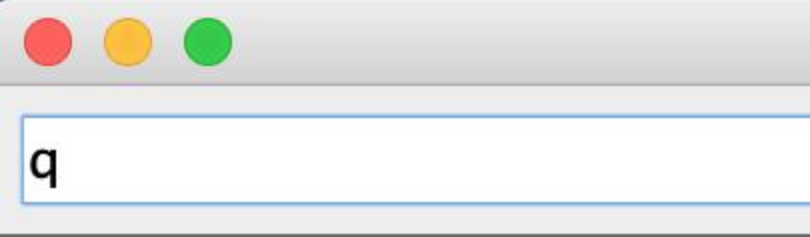
*

* **NOTE: I am using the Arduino IDE for my testing. When it comes to sending data, open the Arduino IDE (upload code if needed) --> Go to tools --> Serial Monitor

* Make sure if you are using a program like putty to send data over, make sure its using a 9600 baud rate.

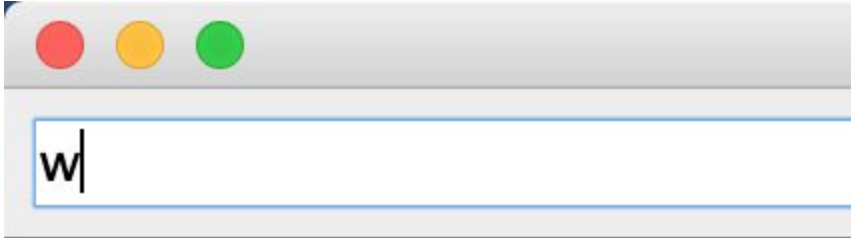
* Also the reason why I stated LED 2 to LED 7 is because of how the data pins are allied to the LEDs.

Turning LED's On



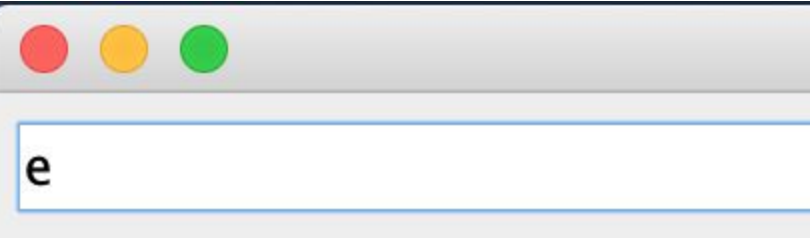
```
q  
20:05:59.621 -> Serial 7 ON  
20:08:25.972 -> Serial 2 ON  
20:08:25.972 -> Serial 3 ON  
20:08:26.009 -> Serial 4 ON  
20:08:26.009 -> Serial 5 ON  
20:08:26.044 -> Serial 6 ON  
20:08:26.044 -> Serial 7 ON
```

Typing Q:



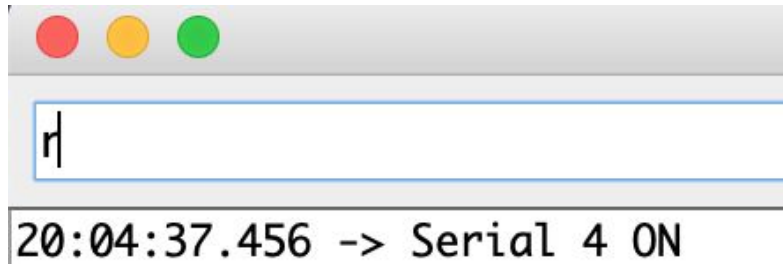
```
w  
20:03:40.548 -> Serial 2 ON
```

Typing W:

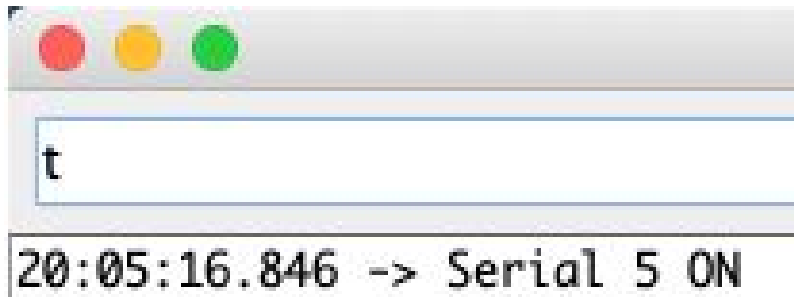


```
e  
20:04:18.086 -> Serial 3 ON
```

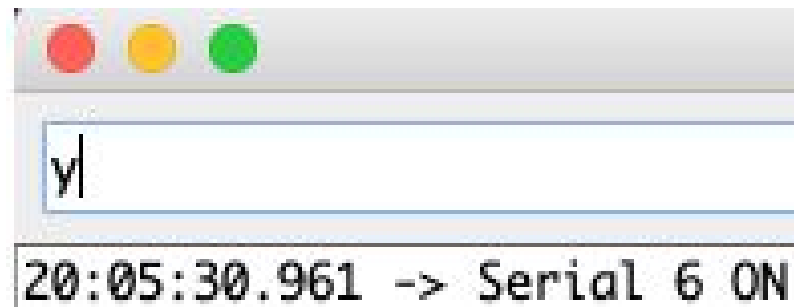
Typing E:



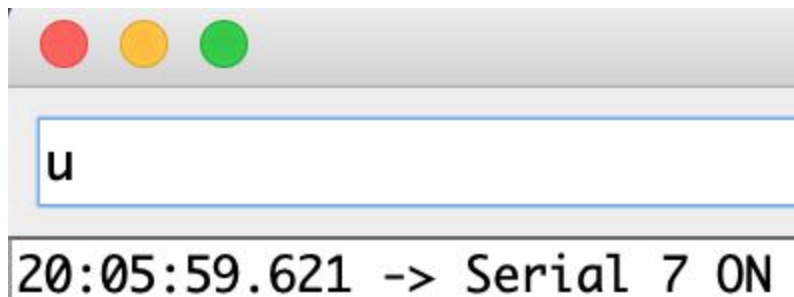
Typing R:



Typing T:

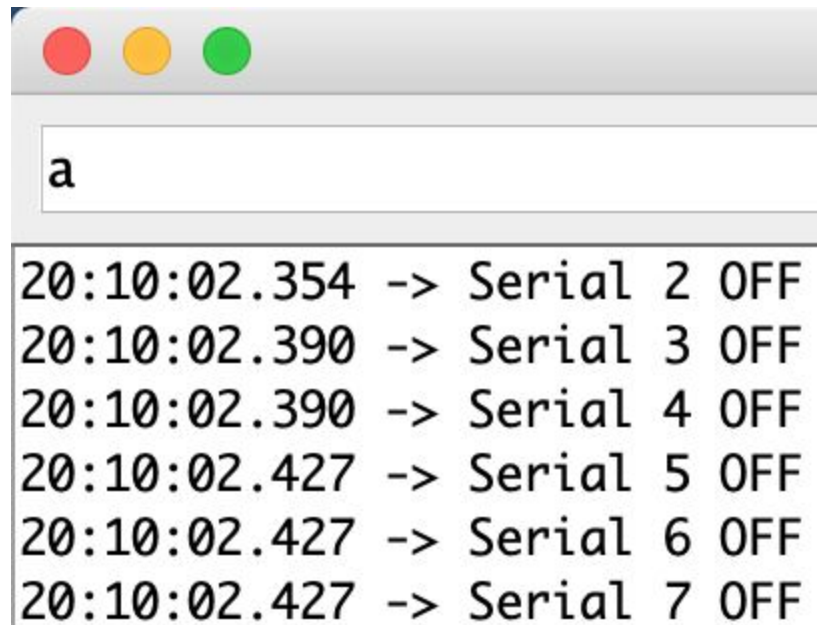


Typing Y:



Typing U:

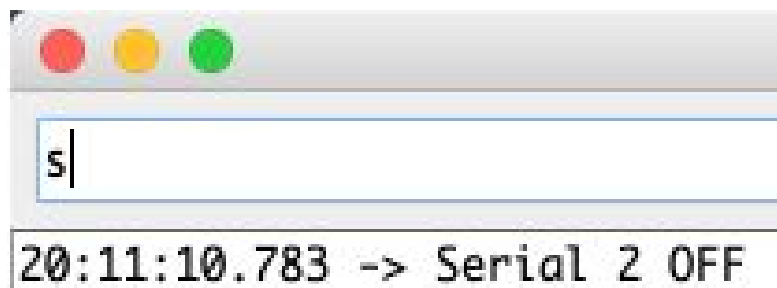
Turning LEDs Off



A terminal window with a title bar containing three colored buttons (red, yellow, green). The input field contains the letter 'a'. The output shows a series of commands turning off LEDs 2 through 7.

```
20:10:02.354 -> Serial 2 OFF  
20:10:02.390 -> Serial 3 OFF  
20:10:02.390 -> Serial 4 OFF  
20:10:02.427 -> Serial 5 OFF  
20:10:02.427 -> Serial 6 OFF  
20:10:02.427 -> Serial 7 OFF
```

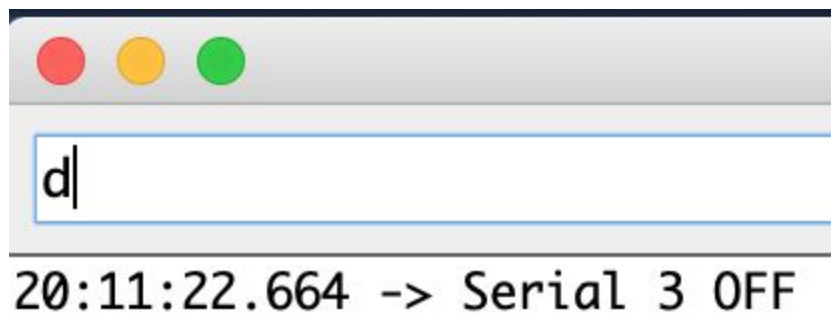
Typing A:



A terminal window with a title bar containing three colored buttons (red, yellow, green). The input field contains the letter 's'. The output shows a command turning off LED 2.

```
20:11:10.783 -> Serial 2 OFF
```

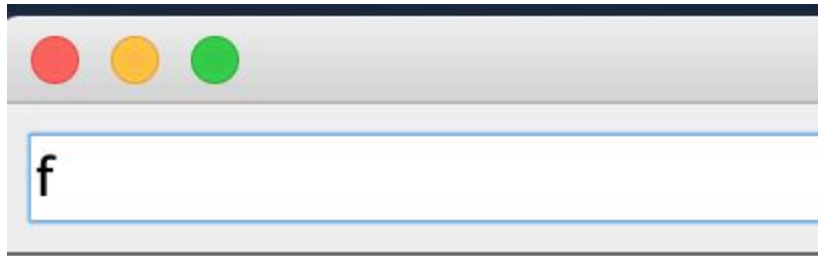
Typing S:



A terminal window with a title bar containing three colored buttons (red, yellow, green). The input field contains the letter 'd'. The output shows a command turning off LED 3.

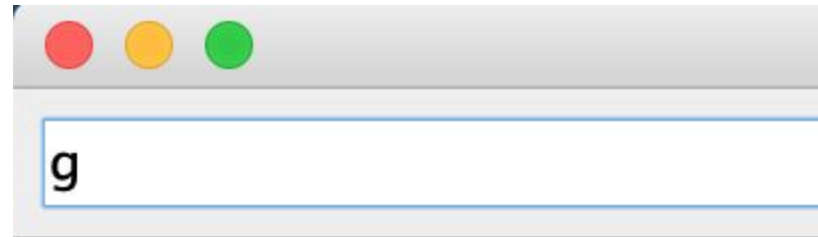
```
20:11:22.664 -> Serial 3 OFF
```

Typing D:



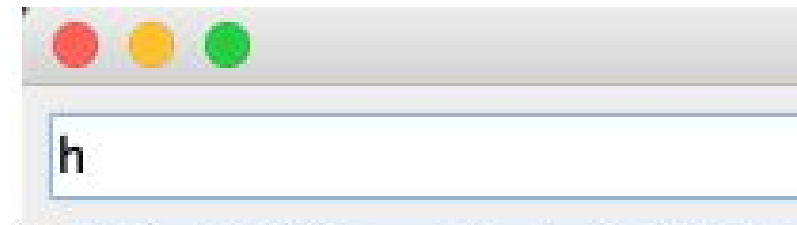
20:11:35.769 -> Serial 4 OFF

Typing F:



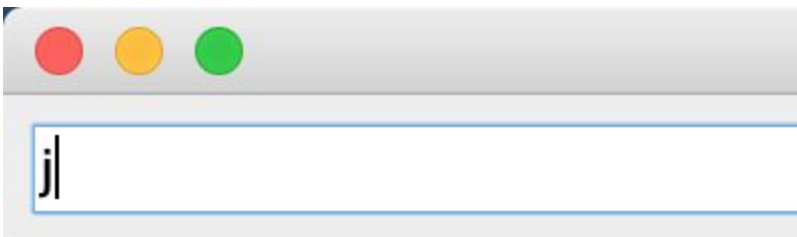
20:12:00.217 -> Serial 5 OFF

Typing G:



20:12:14.816 -> Serial 6 OFF

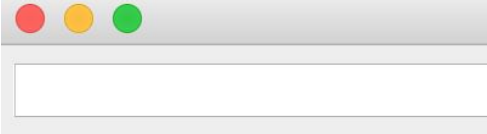
Typing H:



20:12:36.647 -> Serial 7 OFF

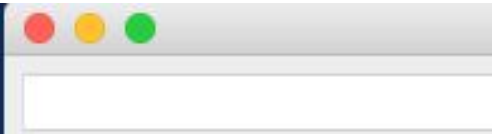
Typing J:

Pressing Physical Buttons



```
20:18:49.185 -> BUTTON 2 OFF
20:18:49.185 -> BUTTON 3 OFF
20:18:49.223 -> BUTTON 4 OFF
20:18:49.223 -> BUTTON 5 OFF
20:18:49.223 -> BUTTON 6 OFF
20:18:49.257 -> BUTTON 7 OFF
20:18:49.257 -> BUTTON 2 OFF
20:18:49.291 -> BUTTON 3 OFF
20:18:49.291 -> BUTTON 4 OFF
20:18:49.291 -> BUTTON 5 OFF
20:18:49.324 -> BUTTON 6 OFF
20:18:49.324 -> BUTTON 7 OFF
```

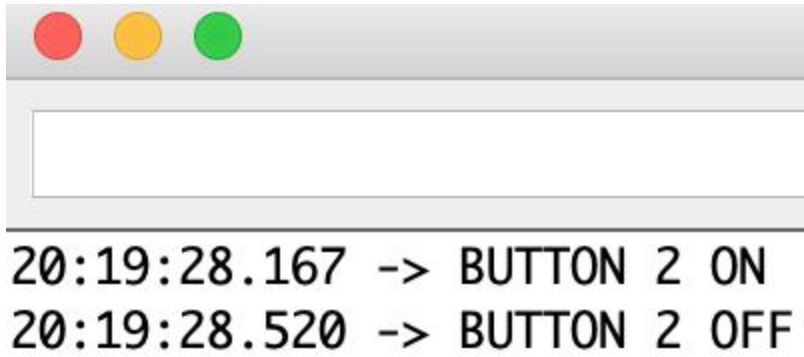
Pressing Button 0 - ALL LEDs OFF:



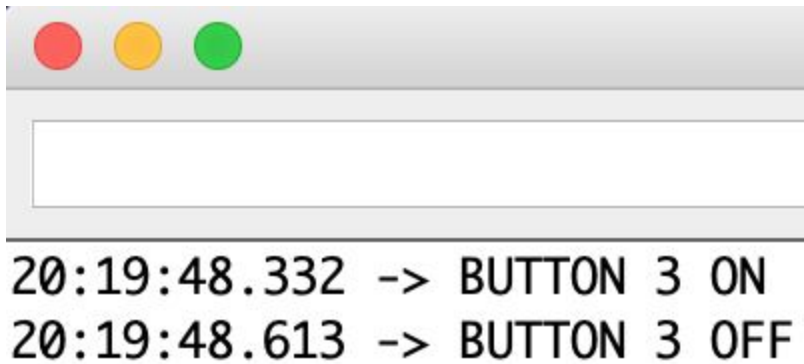
```
20:19:15.274 -> BUTTON 2 ON
20:19:15.274 -> BUTTON 3 ON
20:19:15.307 -> BUTTON 4 ON
20:19:15.307 -> BUTTON 5 ON
20:19:15.307 -> BUTTON 6 ON
20:19:15.340 -> BUTTON 7 ON
20:19:15.340 -> BUTTON 2 ON
20:19:15.376 -> BUTTON 3 ON
20:19:15.376 -> BUTTON 4 ON
20:19:15.376 -> BUTTON 5 ON
20:19:15.413 -> BUTTON 6 ON
20:19:15.413 -> BUTTON 7 ON
```

Pressing Button 1 - All LEDs On:

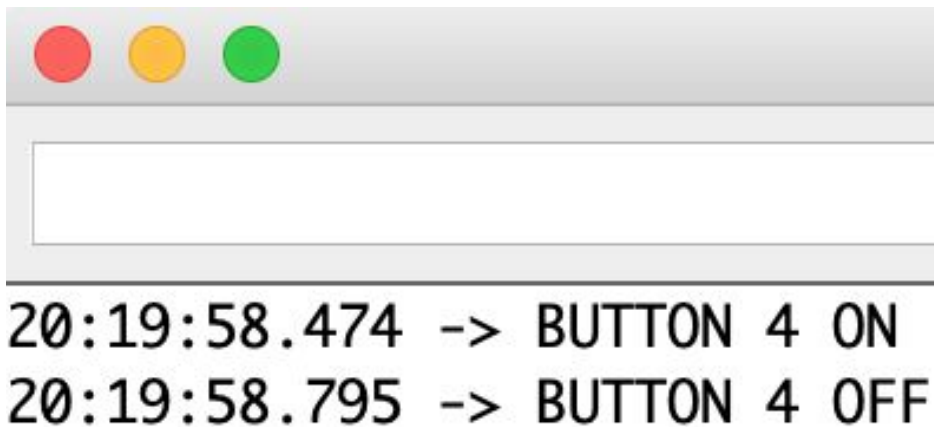
Pressing Button 2 - LED 2 On/Off:



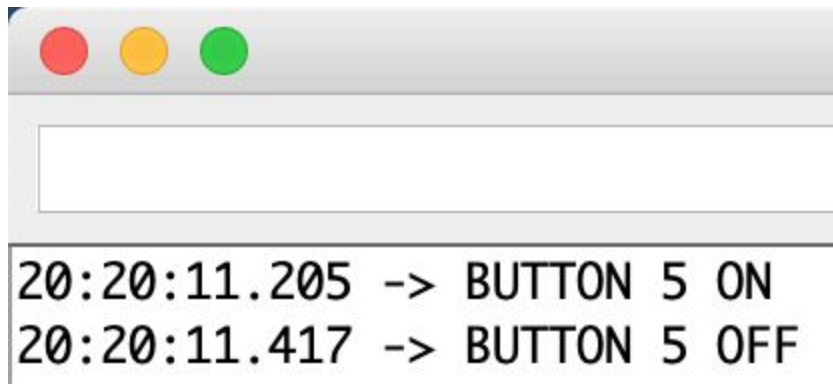
Pressing Button 3 - LED 3 On/Off:



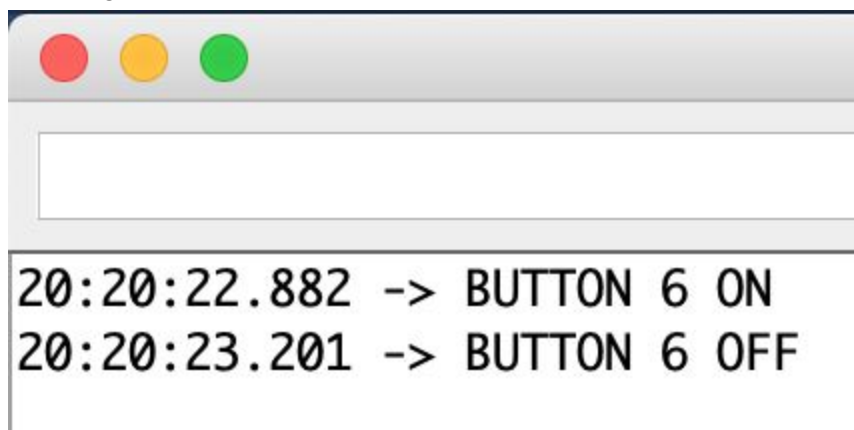
Pressing Button 4 - LED 4 On/Off:



Pressing Button 5 - LED 5 On/Off:



Pressing Button 6 - LED 6 On/Off:



Pressing Button 7 - LED 7 On/Off:

