



# MERCODER

## Code the LED Lights

### Overview:

Use Python code to control the LED lights on a 22x18 grid.

### Getting Started on the Raspberry Pi:

- Change into the directory: `/home/pi/LED`
- Copy the template: `cp template.py NEWNAME.py`  
(be careful that your NEWNAME.py doesn't exist)
- Edit your NEWNAME.py
- Run the code: `sudo python NEWNAME.py`

### LED Lights API (Python commands to use):

#### Defined Data:

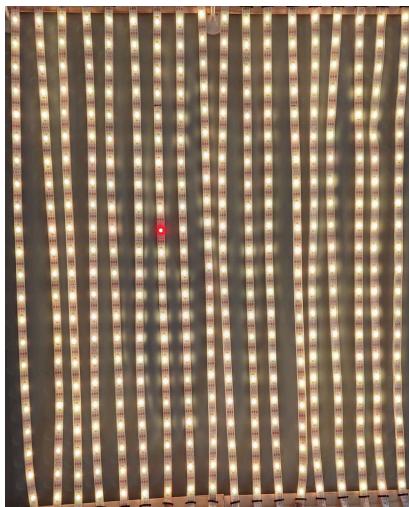
`ROWS = 22 COLS = 18`

Colors: `BLACK, WHITE, RED, GREEN, BLUE,`  
`YELLOW, ORANGE, DARKBLUE, PINK`

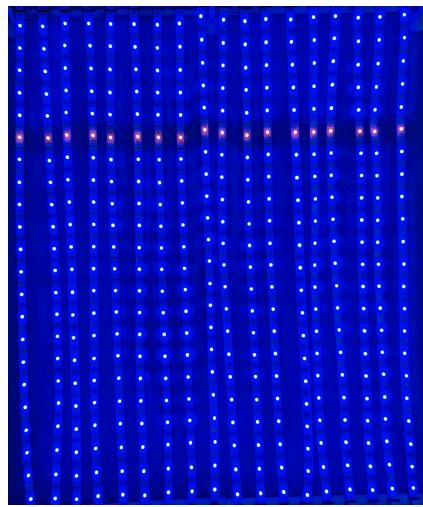
#### Defined Methods for LEDs:

<code>setColor(color)</code>	Turns all LEDs to <i>color</i> .
<code>setColorAt(row,col,color)</code> <code>lights.show()</code>	Set one LED to a color. <b>You'll need to also:</b> <code>lights.show()</code>
<code>setRowColor(row,color)</code>	Turns all LEDs on row <i>row</i> to <i>color</i> .
<code>setColColor(col,color)</code>	Turns all LEDs on col <i>col</i> to <i>color</i> .
<code>colorWipeDown(color)</code>	Fills LEDs with <i>color</i> from top.
<code>colorWipeLR(color)</code>	Fills LEDs with <i>color</i> from left to right.
<code>makeBox(row,col,w,h,color)</code>	Make a box (see example online).
<code>checkerBoard(color1,color2)</code>	Fills LEDs with 2x2 boxes forming a checker board alternating 2 colors.
<code>randColor()</code>	Returns a random color.

Here are some code samples and screenshots:



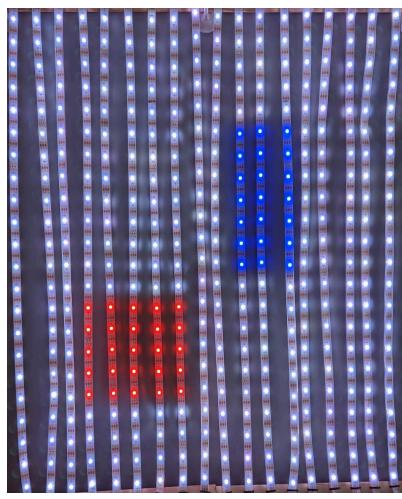
```
setColor(YELLOW)  
setColorAt(9, 6, RED)  
lights.show()
```



```
setColor(BLUE)  
setRowColor(5, ORANGE)
```



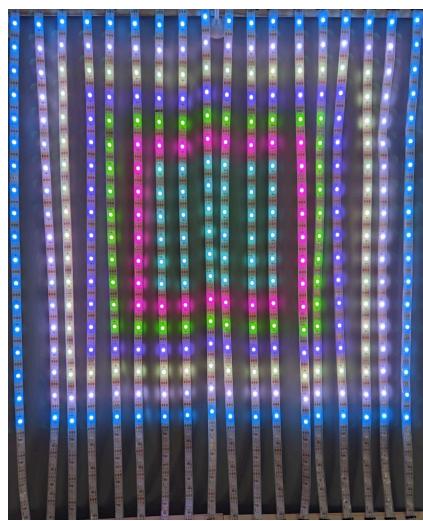
```
setColor(RED)  
setColColor(12, GREEN)
```



```
setColor(WHITE)  
makeBox(5, 10, 3, 7, BLUE)  
makeBox(13, 3, 5, 5, RED)
```



```
checkerBoard(GREEN, YELLOW)
```



```
for x in range(7):  
    makeBox(x, x, 18-x-x, 18-x-x, randColor())
```

