SenseHAT

In this section you will ouput the presence detection result using SenseHAT. The SenseHAT can be controlled using the <u>SenseHat</u> Python module.

- If you have not already, install the python module by opening a terminal window on your RPi and running the following commands:

```
sudo apt-get update
sudo apt-get install sense-hat
sudo reboot
```

- First, let's just output the `result` to the 8x8 LED display. Update your program by adding the following import statement at the top of the python program:

```
from sense_hat import SenseHat

sense = SenseHat()
```

We will use two arrays to keep track of the names and corresponding device MAC addresses. Add the following array declarations to your program **just before the `arp-scan()` function.

- Change the `arp_scan()` Python function to iterate through the `names` array and check the `arp-scan` for the corresponding MAC address. Replace the `arp_scan()` with the following code:

```
def arp_scan():
    output = subprocess.check_output("sudo arp-scan -l", shell=True)
    for i in range(len(names)):
        result = names[i]
        if macs[i] in output:
            result=result+" is home"
        else:
            result=result+" is not home"
        print(result)
        sense.show_message(result)
```

Now your program will, for each name:

- check the arp-scan `output` for the MAC address of his/her device.
- print the `result` to the console and show the result on the SenseHAT 8x8 LED.

Run the program as before and you should see something similar to the following:

sensehat 8x8 led