Assignment: MQTT

Goal

Get aquainted with MQTT.

Steps

1. Connect to the Wi-Fi network
   - Use `WiFi.localIP()`
2. Connect to MQTT broker
3. Publish temperature
4. Implement last will to indicate online status
5. Implement subscription to reconfigure device
   1. Change temperature report interval

Tips

To generate a client id make something with `ESP.getChipId()`

Creating a `String` from a number:

- `String(123) => "123"`
- Hex formatted: `String(0x123abc, HEX) => "123abc"`

Some APIs require "plain C strings" aka a `char *`. They can be converted with `String::c_str()`:

```
char *cStr = myString.c_str();
```

Bonus

1: Print the heap at regular intervals.

2: Implement min, max and average temperature over configured interval.

Suggested parameters:

- Sample interval: 2 seconds
- Publish interval: 10 seconds

3: Make sure the values are calculated even if we're reconnecting to the Wi-Fi or MQTT server.