



Task Scheduler Overview

Check Buttons:

- Start -> CheckButtons_Start -> CheckButtons_Main -> Loop
- This task monitors button presses and adjusts the set temperature based on button input.

Set Heater Status:

- Start -> SetHeater_Start -> SetTemperature_Main -> Loop
- This task controls the LED representing the heating element based on the current and set temperatures.

Read Temperature:

- Start -> ReadTemperature_Start -> ReadTemperature_Read -> Loop
- This task should read the current temperature from the sensor.

Report Status:

- Start -> Report_Start -> Report_Report -> Loop
- This task should output the current system status via UART, meaning that a connected terminal should have lines being displayed indicating the current temperature, set temperature, if the heater is on, and the time the system has been running for in the form of seconds.

Transitions:

- After Check Buttons, the scheduler should move to Set Heater Status.
- Then, the scheduler should move from Set Heater Status to Read Temperature.
- Then, the scheduler should move from Read Temperature to Report Status.
- Then, the scheduler should move from Report status and loop to Check Buttons, completing once cycle of the task scheduler.