IOT Smart Weather Project :

V3.0.

Date __/__/____

Saathi

Initialization :-

1. Enable clock for Port C. If the clock set goto next line otherwise repeat this step.

2. Set Switch 1 and Switch as pull up and input mode

3. Initialization of the Systick.

4. Enable PC0 as analog function for ADC.

5. Enable the ADC clock. If the clock set goto next line otherwise repeat this step.

6. Set Sequnce, Sample rate and enable the ADON and EOCS bit for ADC.

7. Enable PortB clocks, If the clock set goto next line otherwise repeat this step.

8. Set portB 6 and 7 as Alternate function for I2C.

9. Enable pull up and open drain for I2C communication.

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10. Enable the I2C clock. If the clock enable then goto next step otherwise repeat same step.

11. Disable Pheripheral, set clock to 16MHz and Standard mode

12. Initialize the LCD to 4-bit mode

13. Enable Port A clock. If the clock set then goto next step otherwise repeate the same step.

14. Port A 9 and 10 set as Alternate Function UART 1

15. Enable the UART clock. If the clock enable then goto next step otherwise repeate the same step.

16. Set Baudrate and enable the Transmitter, Receiver and UART.

17. Set LED PC5 and PA8 as output mode

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Operation:-

* Display Welcome message
* Setup WiFi Network. If fails restart the program

Task1: * Read data from the RTC. If success goto next step otherwise display error.

* Display the read data in LCD.
* Check Switch 1 pressed. If yes then Write to RTC data otherwise goto next step.
* Check the second divide by 5 If yes then Read ADC data and update in the display otherwise goto step 1.
* After ADC read again check the sec divide by 5 then goto next condition otherwise goto step 1
* Now check connection status If the connection Works fine then update the data to the cloud. And update the status as "OK" in the display and Turn ON GREEN LED

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* otherwise write the data to the EEPROM. and Turn ON RED LED
* If Write to EEPROM Fails the show "ERROR" message otherwise the data goto next line

* check Switch 2 pressed if not goto Task1 otherwise go display The content in the EEPROM To the display and goto Task1.