Homework
Hello-the-world and GPP Interface Testing
HL

Import the sample GPIO project https://github.com/hualili/CMPE240-Adv-Microprocessors/blob/master/2018S-11-GPIO-2015-1-30.zip to your MCUXpresso IDE, build circuit and modify the C program to realize the following functions:

1. Use p0.21 (j2-23) pin as an output pin and p2.13 (j2-27) pin as an input pin.

Note, these pin numbers on connector J2 is based on the SCH LPCXpresso1769_CD_revD(1).pdf, if you have different version of LPC CPU module, then find the right connector pin for p0.21 and p2.13 accordingly.

2. Build a prototype circuit for GPIO input and output testing. Run GPP testing functions and modify this function to test GPP input and output.

Your output function should be able to turn on LED when CPU sending 1, and turn it off when CPU sending 0.

The input function should be able to read logic 1 when the testing circuit toggle the switch to connect to Vcc (3.3 V), and logic 0 when the testing circuit switch is toggled to the GND.

What to submit:

1. Exported project with all the sittings, so it is ready to be executed;

2. Provide stand-a-lone source code in addition to the exported project file.

3. A photo of GPIO output testing result with LED on.

4. Submission to Canvas on line.

Appendix A. Reference in the Lecture Note, pp. 33, Oct.18, 2021.

CmpE240

Device

320 x 240

/Row Row

Homework Requirements

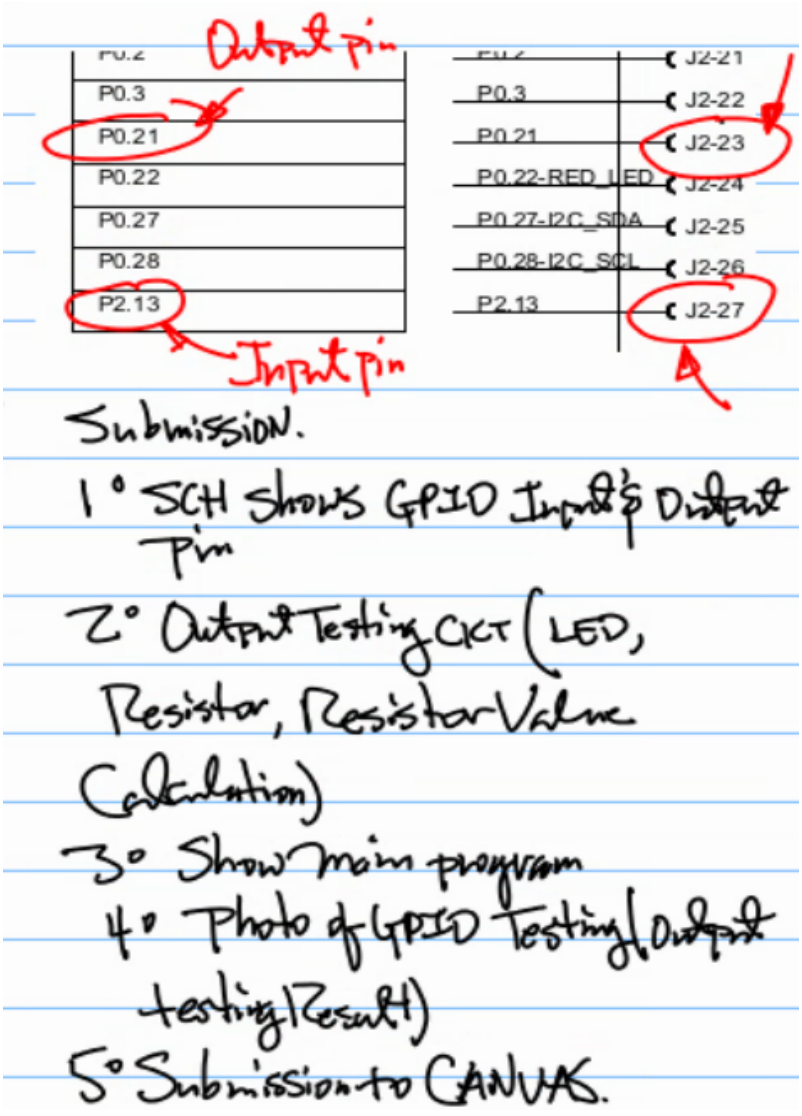
1° Read the source code then, from SCH of the LPC1769 Design, find the proper value to perform init & Config. to make

J2-21 GPIO pin as an input,

J2-23 " " " Output.

mm

LPCXpresso1769_CD_revD(1).pdf


Output pin
P0.3
P0.21
P0.22
P0.27
P0.28
P2.13
Input pin
P0.3
P0.21
P0.22-RED_LED
P0.27-I2C_SDA
P0.28-I2C_SCL
P2.13
J2-21
J2-22
J2-23
J2-24
J2-25
J2-26
J2-27
Submission.
1° SCH shows GPIO Input & Output Pin
2° Output Testing CKT (LED, Resistor, Resistor Value Calculation)
3° Show main program
4° Photo of GPIO Testing (Output testing Result)
5° Submission to CANVAS.

(END)