README

- The Main folder contains 2 folders, namely- **CodeWarrior** and **MATLAB**

The CodeWarrior Folder Contains three folders- Tutorial1, Tutorial2 and Combo

- **Tutorial1**- Contains code to control the LEDS and generate interrupts - Blinking of Green LED and through interrupt, control the Red LED
- **Tutorial2**- Contains code for Serial Communication where we send some message from MATLAB and gets displayed on the PC via the board
- **Combo-** Contains two codes in the Combo.c file
- One code to control the LEDs through (1-6) entered by the user, and the LEDs(0-5) are switched on, while the rest are switched off respectively
- The Other Code to control the blinking rate of LED0 by sending the input(1-4) corresponding to the blinking rates- 0.25,0.5,0.75 and 1 sec respectively and thus controlling the blinking rate of LED0

'Uncomment' whichever code you want to run and 'comment' the other one off

The **MATLAB** Folder contains 4 files-

- Serial- Initial code setting the serial object, must be run everytime you want to run any of the next 3.
- Serial1- Code to send message through the board
- Serial2- Code to control the LEDs from the user through (1-6) via baud rates
- Serial3 -Code to control the blinking rate of LED0 from the user through (1-4)

Run Files:

For Tutorial1

Go to Codewarrior IDE. Go to File>Open>Section3_lab4_DAN(unzipped)>CodeWarrior folder>Tutorial1>LEDControl>LEDControl
Go to Processor Expert> Generate code 'LEDControl.mcp'
Go to Files Tab on the right hand side, go to User Modules>LEDControl.c and double click
Go to Edit>Idm Settings>Remote Debugging> 5800E Remote Hardware Connection
Go to Project Tab, Make, then Project>Debug. Press Run once again.
You should see the Green LED blinking , and when you press the IRQ_A interrupt the Red LED switches on.

For Tutorial2

Go to Codewarrior IDE. Go to File>Open>Section3_lab4_Gr4__DAN(unzipped)>CodeWarrior folder>Tutorial2>Serial>Serial
Go to Processor Expert> Generate code 'Serial.mcp'
Go to Files Tab on the right hand side, go to User Modules>Serial.c and double click
Go to Edit>Idm Settings>Remote Debugging> 5800E Remote Hardware Connection
Go to MATLAB in Windows 10, and in MATLAB open Section3_lab4_DAN(unzipped)>MATLAB folder>Serial.m and Serial1.m

Go to Project Tab in the VMware (CodeWarrior) tab, Make, then Project>Debug. Press Run once again.
Go to MATLAB in Windows 10, run Serial.m then Serial1.m
You should see the the message pop up.

For Combo

For Code1
Go to Codewarrior IDE. Go to File>Open>Section3_lab4_DAN(unzipped)>CodeWarrior folder>Combo>Combo
Go to Processor Expert> Generate code 'Serial.mcp'
Go to Files Tab on the right hand side, go to User Modules>Combo.c and double click.
Uncomment the section for LED Control through user (1-6) and leave the commented other part as it is.
Go to Edit>Idm Settings>Remote Debugging> 5800E Remote Hardware Connection
Go to MATLAB in Windows 10, and in MATLAB open Section3_lab4_DAN(unzipped)>MATLAB folder>Serial.m and Serial2.m
In Serial2.m, change to whichever value you want (1-6) in the Tx_str variable
Go to Project Tab in the VMware (CodeWarrior) tab, Make, then Project>Debug. Press Run once again.
Go to MATLAB in Windows 10, run Serial.m then Serial2.m
You should see for the respective input sent by the user, the respective LED lights up.

For Code1
Go to Codewarrior IDE. Go to File>Open>Section3_lab4_DAN(unzipped)>CodeWarrior folder>Combo>Combo
Go to Processor Expert> Generate code 'Serial.mcp'
Go to Files Tab on the right hand side, go to User Modules>Combo.c and double click.
Uncomment the section for LED0 blinking rate control and leave the commented previous part part as it is.
Go to Edit>Idm Settings>Remote Debugging> 5800E Remote Hardware Connection
Go to MATLAB in Windows 10, and in MATLAB open Section3_lab4_DAN(unzipped)>MATLAB folder>Serial.m and Serial3.m
In Serial2.m, change to whichever value you want (1-4) in the Tx_str variable
Go to Project Tab in the VMware (CodeWarrior) tab, Make, then Project>Debug. Press Run once again.
Go to MATLAB in Windows 10, run Serial.m then Serial3.m
You should see for the respective input sent by the user, the LED0's blinking rate varies