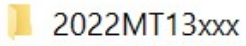
Lab Assignment-2

[Weightage - 10%]

Assignment Instructions:

1. Assignment should be solved individually.
2. No marks will be awarded if plagiarism is detected.
3. Question-1 must be performed in Remote lab.
4. It is mandatory to create a uVision Project folder in E:/ or D:/ or any other drive of Remote lab computer and give name to that folder as your BITS_ID e.g. 2022MT13xxx.

   Under this folder, you will save your assignment Keil project.
5. Please take complete (without cropping) screen shots of the KEIL IDE-in debug mode to demonstrate the desired output.
6. It is mandatory to ensure that the screenshot captures **system time & day**.
7. Screenshots must be clearly visible (good resolution).
8. For blur, adjusted, cropped and without system date and time screenshots, marks will be reduced.

Submission instructions:

Upload a single PDF document (named based on your BITS-ID number and name (**ID-No_Full-Name**)) which consist of answers of questions and relevant screenshots on Course Website (http://taxila-aws.bits-pilani.ac.in) during **19/03/2023-20/04/2023**.

Q.1. Write a C program for displaying your BITS ID on 1st Row and voltage difference between the terminals of the potentiometer on 2nd row of LCD Display present in the LPC2378 kit. The Potentiometer is connected to AD0.0 pin of LPC2378. This program is to be done using remote lab and Keil uV4 .
Capture the screenshot of the LCD display showing your BITS ID and voltage value. Give suitable screen shots of the KEIL IDE-in debug mode to demonstrate the desired outputs. Ensure that the screenshot captures system time & day. [6]

Q.2. Answer the following questions related to LPC2378:

a) What is the smallest change in input voltage that the ADC can detect? (+Vref =3.3 V) [1]

b) What is the maximum clock frequency needed by ADC of LPC2378? [1]

c) Give the steps to program timer for 2 second delay generation with calculation. Assume CCLK=48MHz. [2]