PicsimLab Tutorial For Version 0.8.2

PicsimLab is software that we use to simulate PIC processor hardware

Installing PicsimLab on Windows

Do not perform this part for the lab PCs, as they already have PicsimLab installed.

Download the installer from the file cabinet, as described on the last page of the MPLAB X tutorial. Also download the necessary plugin. Note that the plugin is written to match with the given version of MPLAB X. The following are the files:

- picsimlab_0.8.2_win64_seup.exe
- com-picsim-picsimlab_mplabx5.40.nbm

The manual for installing PicsimLab are outlined in the following document:

https://lcgamboa.github.io/picsimlab/pdf/How%20to%20use%20MPLABX%20to%20program%20and%20debug%20PICsimLab.pdf

Run the PicsimLab installer by clicking left then right clicking and selecting Open.

After the PicsimLab installer is complete, start MPLAB X. For this part have MPLAB X recently started, without a project. Then in the MPLAB X window open the Plugins menu.

Tools >> Plugins

Click the Downloaded tab then click the button Add Plugins… In the “Add Plugins” window navigate to the .nbm file that you downloaded, click on the file then click Open.

Next, back in the Plugins window, to the upper left click to check the “install” choice then to the lower left click Install, then Close and then Next.

In the Plugin Installer window click to check, “I accept the terms in all the license agreements” and click Install. In the Validation Warning window click Continue. Clicking Finish at this point will restart MPLAB X.

Using PicsimLab

Before starting MPLAB X, start PicsimLab from the start menu

Start >> PicsimLab >> PicsimLab

Select the processor board you will be using. In the PicsimLab window. The reset button appears to right, half way up the board.

Board >> 0 Breadboard

Next, open the parts window

Modules >> Spare Parts

In the Spare parts window, insert an LED display board

Add >> LEDs

In the Spare parts click to place the LED display board. To move the display board click on it then right click and select Move. Next, right click and pick Properties.

The LEDs window is used to assign to each LED a corresponding pin. After making the following assignments click OK.

- Pin 1 : 40 RB7
- Pin 2 : 39 RB6
- Pin 3 : 38 RB5
- Pin 4 : 37 RB4
- Pin 5 : 36 RB3
- Pin 6 : 35 RB2
- Pin 7 : 34 RB1
- Pin 8 : 33 RB0

Back in the PICSimLab window set the Clock speed to 4MHz. This will cause the Program Memory Bus (PMB) rate to be 1MHz. Then click the Debug button to appear to be pressed downward.

Once MPLAB X is started, to use PicsimLab, in the MPLAB X window open the project properties window.

File >> Project Properties

In the Project Properties window, to the right of “Connection Hardware Tool:” click “Show All” then in the “Connection Hardware Tool:” select “PicsimLab”. Click OK.

Start the debugger as you normally would. You may have to click the debugger pause button and then reset to restart the simulation.