EE5314 Class Notes

Using MPLAB

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MPLAB and ICD3

- DO NOT plug in the ICD3 yet!
- Download MPLAB 8.63 or later
- http://www.microchip.com/stellent/idcplg?IdcService=SS_GET_PAGE&nodeId=1406&dDocName=en019469&part=SW007002
- NOW plug in ICD3, drivers should install correctly

Building a Project in MPLAB

- Project>New
  Name the project and select a path, click OK
- Project>Select Language Toolsuite
  Ensure MPLAB ASM30 Toolsuite is selected
  (use MPLAB C30 Toolsuite for C code)
- View>Project
- Create ASM or C file (or use one from class) and save file at the path above
- In project toolbar, right click on Source Files to add the file above
- In project toolbar, right click on Linker Script to add the file “p33fj128mc802.gld” from the following location: C:\Program Files\Microchip\MPLAB ASM30 Suite\Support\dsPIC33F\gld

Building a Project in MPLAB

- Configure>Select Device: select 33FJ128MC802 device
- Configure>Configuration Bits
  Set bits as appropriate for your hardware if not set in code
  Project>Save Project to be sure you don't lose anything
- Project>Build All

Emulation

- Debugger>Select Tool>MPLAB SIM
- Right click on the line of code to add a breakpoint (unlimited in sim)
  - Break occurs before line of code executes
- Use the view menu to see the program and data memory
- Use Debugger>Stimulus to emulate push buttons and other events
- Debugger>Run (run to breakpoint at full speed)
- Use F7 and F8 to single-step through code

Programming

- Programmer>Select Programmer>ICD3
- Programmer>Program
- Programmer>Release from Reset
- Your hardware should be running

Real-time Debugging

- Debugger>Select Tool>MPLAB ICD3
- Debugger>Program (to load the debug kernel)
- Right click on the line of code (ASM or INC files) to add a breakpoint
  - Break occurs after line of code executes due to “hardware breakpoint skidding”
- Debugger>Run (run to breakpoint at full speed) or Debugger>Animate (stepping)