

Panel 1

Prior to Le08

# Introduction to MPLAB

First use of MPLAB

ME430 Mechatronics

1

Panel 2

Instructions for this video lecture:

This video lecture will look and feel different from previous video lectures

- You will be pausing it a lot (I didn't even try to put in all the pauses)
- It'd be nice to have an external monitor to avoid the back and forth
  - I wish there was a good way to avoid the video/MPLAB swithing
  - Alt+Tab jumps back and forth quickly

You need to follow along in MPLAB with the video

- To show you've done this print out and attach to Notes:
  - Your tester.c file
    - Make a comment to add your name
      - // David Fisher      Section x      CM 4003
    - Print out from MPLAB is fine
  - Screen shot of your MPLAB workspace
    - Using Alt+Print Screen capture your MPLAB workspace
    - Paste it into Word then print it out to connect to your quiz
    - An example is shown on the next panel

The second time you use MPLAB will be MUCH easier if you follow along well.

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Panel 3

The screenshot shows the MPLAB IDE interface. On the left is a project tree with folders for Source Files, Header Files, Object Files, Library Files, and Linker Script. The main window displays a C program named 'tester.c' with the following code:

```

1 // David Fisher
2 // Section x
3 // CM 4003
4
5 #include <stdio.h>
6 #include <stdlib.h>
7
8 void main () {
9     int x;
10    char y = 'e';
11    long dave = 1234567890;
12
13    x = 17;
14
15    printf("Hello World!\n");
16    printf("The value of x is %d\n", x);
17
18    printf("The char as a decimal %d\n", y);
19    printf("The char as a hexadecimal %x\n", y);
20    printf("The char as a binary %b\n", y);
21    printf("The char as a character %c\n", y);
22
23    while (1)
24    {
25
26    }
27
28 }
    
```

At the bottom, the Output window shows the following simulation results:

```

Build | Version Control | Find in Files | MPLAB SIM | SIM User1
-----
Hello World!
The value of x is 17

The char as a decimal 101
The char as a hexadecimal 65
The char as a binary 1100101
The char as a character e
    
```

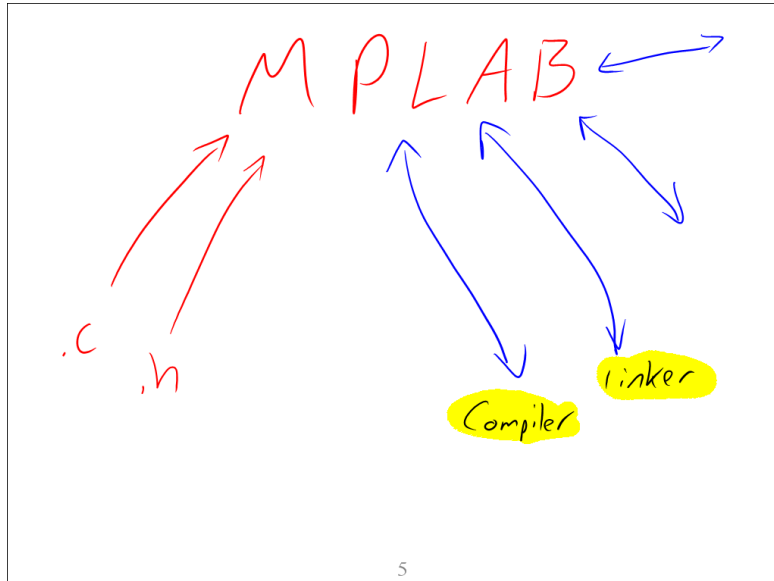
3

Panel 4

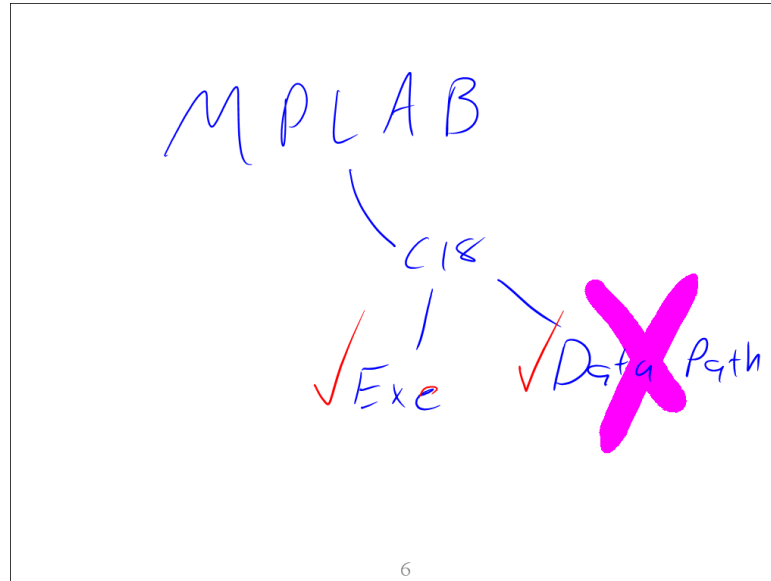
A hand-drawn diagram illustrating the MPLAB workspace layout. A large blue rectangle represents the workspace. Inside, a yellow oval is labeled 'Workspace'. Below it, a yellow oval is labeled 'Project'. To the left of the Project oval, the words 'config', 'Sim', and 'windows' are written vertically. Below the Project oval, a smaller rectangle contains a list of file types: 'Files', 'Files', 'Library', and 'linker'. Underneath these are the file extensions: '.c', '.h', '.lib', and '.lkr'. The 'Files' label and the '.c' extension are circled in yellow.

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Panel 5



Panel 6



Panel 7

MPLAB file locations:

**Within "Set tool language locations":**  
 Microchip C18 Toolsuite

**Executables**

MPASM Assembler	C:\MCC18\mpasm\mpasmwin.exe
MPLAB C18 C Compiler	C:\MCC18\bin\mcc18.exe
MPLIB Librarian	C:\MCC18\bin\mplib.exe
MPLINK Object Linker	C:\MCC18\bin\mplink.exe

**Default Search Paths & Directories**

Output Directory	(leave blank)
Intermediates Directory	(leave blank)
Include Search Path	C:\MCC18\h
Library Search Path	C:\MCC18\lib
Linker-Script Search Path	C:\MCC18\lkr

**When loading the linker use:**

C:\MCC18\lkr\18f4520.lkr	Ok if using simulator only
C:\MCC18\lkr\18f4520i.lkr	Standard linker that always works

Panel 8

