

EECE.3170: Microprocessor Systems Design I

Fall 2016

Lecture 28: Key Questions

November 21, 2016

1. Describe the assembler directives that can be used in the MPLAB IDE.

2. Explain the operation of the following assembly program, which lights a single LED:

Start:

```
banksel    TRISC    ;select bank1
bcf        TRISC,0  ;make C0 an output
banksel    LATC     ;select bank2
clrf      LATC     ;initialize the
                ; LATCH by
                ; turning off
                ; everything
bsf        LATC,0  ;turn on LED C0 (DS1)
goto      $        ;sit here forever!
```

end

3. Explain the equivalent program in C, shown below:

```
void main(void) {  
    TRISCbits.TRISC0 = 0;    // Pin 0 = output  
    LATC = 0; //clear all pins to 0  
    LATCbits.LATC0 = 1; // turn ON LED  
    while(1) continue;  
}
```

4. Describe how to compile and run code in MPLAB. Explain the differences between running code in the simulator and on the development board. Also, discuss how to use the in-circuit debugger to access code on the chip as it runs.