

EECE.3170: Microprocessor Systems Design I

Spring 2016

Homework 6

Due 1:00 PM, Monday, 3/28/16—NO LATE SUBMISSIONS

Notes:

- No late submissions will be accepted for this assignment, as the solution will be posted on Monday to allow you time to study it before Exam 2.
- While typed solutions are preferred, handwritten solutions are acceptable
- All solutions must be legible and contained in one file. Archive files are not acceptable.
- Electronic submissions should be e-mailed to Dr. Geiger at Michael_Geiger@uml.edu. Please include your name as part of your filename (for example, mgeiger_hw6.pdf).
- This assignment is worth 100 points.

Show the result of each PIC 16F1829 instruction in the sequences below. Be sure to show not only the state of updated registers, but also the carry (C) and zero (Z) bits.

Each sequence is worth 25 points.

1. cblock 0x20

```
x
endc

movlw    0x05
sublw    0x15
clrf     x
comf     x, F
xorwf    x, F
swapf    x, W
btfsc    x, 7
bsf      x, 0
```

3. cblock 0x40

```
var1
endc

movlw    0x1E
movwf    var1
rrf      var1, F
xorwf    var1, W
btfss    var1, 4
iorlw    0x06
andwf    var1, F
bcf      var1, 0
```

2. cblock 0x20

```
A
B
endc

clrf     A
movlw    0x11
movwf    B
addlw    0x34
subwf    A, F
comf     A, W
swapf    A, F
```

4. cblock 0x70

```
num1, num2
endc

movlw    0xAA
andlw    0x0F
movwf    num1
xorlw    0xFF
movwf    num2
asrf     num2, F
lslf     num1, W
xorwf    num2, F
comf     num2, W
```