16.317: Microprocessor Systems Design I

Spring 2014

Lecture 22: Key Questions
March 28, 2014

1. Describe the PIC instructions for increment, decrement, and complement operations.

2. Describe the PIC instructions for addition and subtraction.

3. **Example**: Show the values of all changed registers after the following sequence

```
cblock      0x20
      varA
      varB
      varC
endc
clrf        varA
clrf        varB
clrf        varC
incf        varA, W
sublw       0x0F
addwf       varB, F
decf        varB, F
comf        varB, W
subwf       varC, F
```

4. Describe the PIC instructions used for multi-bit bitwise operations.

5. Describe the PIC shift and rotate instructions.

6. **Example:** Show the values of all changed registers after the following sequence.
    Assume the carry bit is initially 0

```
cblock    0x40
    z
endc

clrf      z
movlw     0xF0
iorwf     z, F
xorlw     0xFF
rrf       z, F
andwf     z, W
rlf       z, F
```