

16.317: Microprocessor Systems Design I

Spring 2013

Lecture 25: Key Questions April 5, 2013

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      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 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
```