**CSCI 360 Immediate Byte Instructions**

**SI Instructions**

Instructions that involve a byte in storage represented by a D(B) address and an immediate byte. The immediate byte is part of the encoded instruction. In fact, it is the second byte of the encoded instruction.

The immediate byte can be specified in 4 ways:

1. Character Immediate Byte

- enclose the character in single quotes and precede it with

the letter C

- Example: C'$'

2. Hexadecimal Immediate Byte

- enclose TWO hexadecimal numbers in single quotes and precede

it with the letter X

- Example: X'5B'

3. Binary Immediate Byte

- enclose 8 bits in single quotes and precede it with the

letter B

- Example: B'01011011'

4. Decimal Immediate Byte

- code a decimal value between 0 and 255 (it will be converted

to hexadecimal when encoded

- Example: 91

**Move Immediate**

Format: label MVI D(B),byte

- Moves the immediate byte specified by **byte** to D(B)

Character: MVI 42(R5),C'\*' moves a \* to the address 42(5)

Hexadecimal: MVI 42(R5),X'5B' moves a $ to the address 42(5)

Binary: MVI 4(R5),B'01000000' moves a space to the address 4(5)

Decimal: MVI 0(R10),80 moves a & to the address 0(10)

**Compare Logical Immediate**  
 Format: label CLI D(B),byte

- Compares the byte at D(B) with the immediate byte specified by

**byte**

- Sets Condition code

Code Meaning

0 Equality

1 byte at D(B) < immediate byte

2 byte at D(B) > immediate byte

Character: CLI 4(R7),C'A' compares the letter A with the

byte at the address 4(7)

Hexadecimal: CLI 5(R5),X'F0' compares the character 0 with the

byte at the address 5(5)

Binary: CLI 4(R5),B'11011000' compares the letter Q with the

byte at the address 4(5)

Decimal: CLI 0(R10),64 compares a space with the byte

at the address 0(10)