

2's Complement

$$\begin{array}{r}
 01001000 \\
 + 01100100 \\
 \hline
 10101100
 \end{array}
 \quad
 \begin{array}{r}
 01001000 \\
 + 10011100 \\
 \hline
 11001000 \\
 \text{negative}
 \end{array}$$

Check For Carry

$$\begin{array}{r}
 \boxed{1} \text{ CIN} \\
 01 \\
 01 \\
 \hline
 \boxed{0} \text{ COUT} \quad 10
 \end{array}$$

$$\text{CIN} \oplus \text{COUT} = \text{overflow}$$

Overflow 59 + (-19)

$$59 = 0111000$$

$$19 = 0010011$$

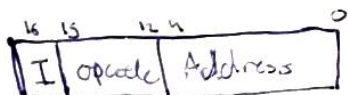
2's complement of 19

$$\begin{array}{r}
 1101100 \\
 + \quad 1 \\
 \hline
 1101101
 \end{array}$$

I = Addressing Mode

I = 0 direct

I = 1 indirect

AC \rightarrow DR

Contents of AC are transferred to DR

M[AR] \leftarrow DR

Transfer the word stored in DR to Memory at address stored in AR

Addressing Modes

Specifies how to calculate the effective memory address, of an operand.

Indexed addressing

Find a memory location based on index

Prof may throw LDAC curveball on final, instruction does nothing *

Immediate Addressing

MOV AX, 45H

Moves right from memory to accumulator.

No bus, N then registers.