CBW (Convert from byte to word)

-> This instruction does not have any operand.

This instruction copies the sign bit of AL register) into the AL register (MSB of AL register) into the 8-6175 of AH register.

(Sign Extension).

What is Sign Extension?

-> if assume you have a signed binary number 0110 (4-bit).

Sign bit

000000110

Sign extended

-> if we have a -ve number

10110 (5-617).

after sign extension.

both have

Same

1110110 (7-bit).

Value.

MOV AL, 45H. CBW AL = 0100 0101 A Sign bit.

AH = 0000 0000

BE of CBW AL = 45H AH = ? => AX = ?? 45H.

AE of CBW

AL= 45H AH=00H => AX=0045H.

BX AL

16-bit 8-bit

> + 1

8086 we connot add them disectly.

ADD BX, AL (noot VALID because source and destination operand Size donot match).

CBW

ADD BX, AX (VALID).

024

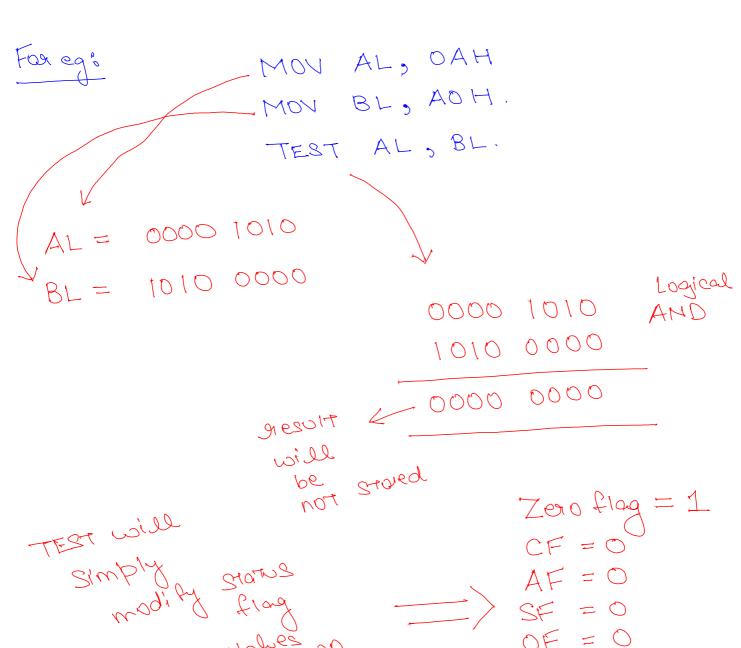
CWD (Convert from word to double word)
(16-bit) (32-bit)

* Convert a 16-bit value in Ax register to a 32-bit value in DX: Ax register combination by sign extension of sign bit of Ax register.

TEST instauction

TEST operand 1, operand 2. (Syntax).

The TEST instruction performs bitwise logical AMD operation of operands and operands without saving the sesur, operands without saving the sesur, just the status flags is modified based on sesult.



COMPARE INSTRUCTION

CMP operand 1, operand 2. (Syntax).

Legister Register Register memory.

- This in stauction performs subtraction of operands from operands.
- Result of subtraction is not stored anywhere but the startus of Zero frag and Casay frag indicates composison.
- * When operand = operand > Zero flag = 1.

 Operand > operand > Zero flag = 0

 Casay flag = 0

operand 1 < operand 2 -> Zero flag = 0

Casey flag = 1.

MASM -> assembles

29 VIT SORTO RATO MOSERA

JUMP Instauction -> unconditional >> conditional.

1 Unconditional Jump.

JMP target address > generally provided.

This in stauction unconditionally transfer the Control of execution to the Specified target address using 8-bit or 16-bit displacement.

target address -> CS+ displacement.

displacement

code Segment

Vis given with JMP as openand.

For eq:

MOV AL, OOH.

AGAIN: MOU BL, DIH.

ADD AL , BL

JMP AGAIN Jabel.

JMP ACAIN

ACAIN

to indicate displacement.

MA = BA+ 2A

= C8+ IP ± displacement.

 $= CS + \mathbb{I}P - 3$