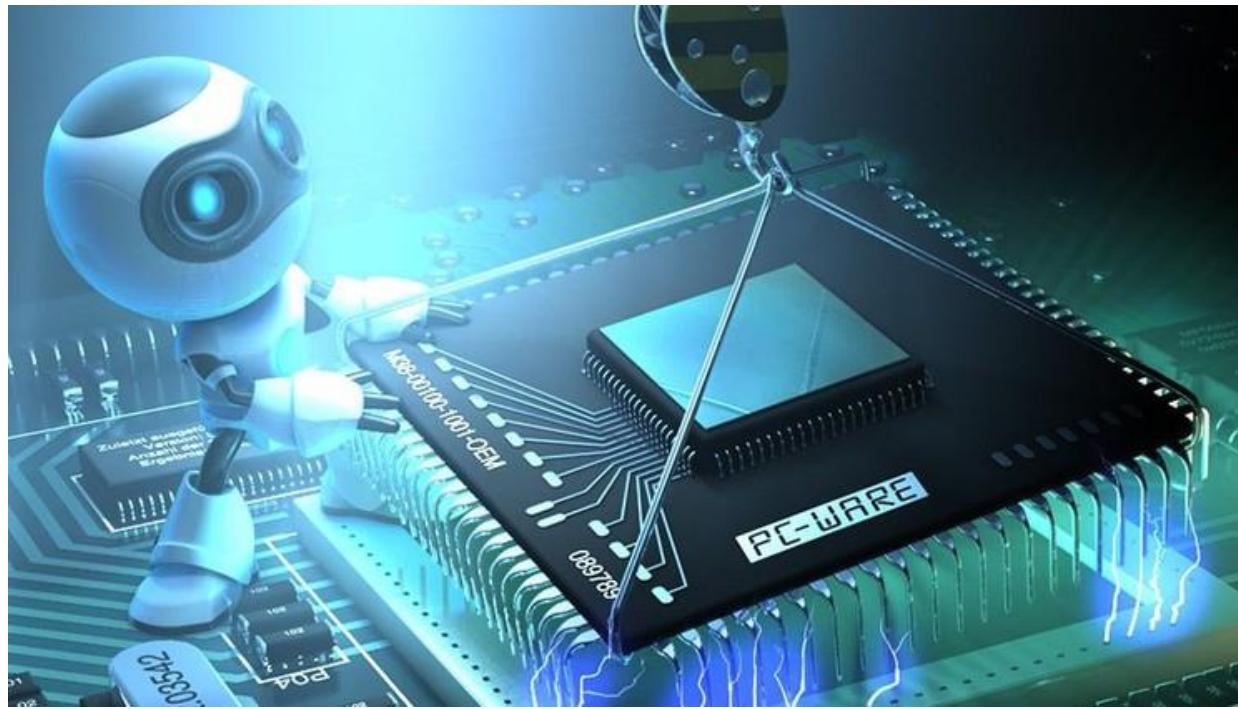


# Data Movement Instructions



# Data Movement Instructions



Instructions	Description	Notes	Example
<b>MOVx op1, op2</b>	$op2 \leftarrow op1$	$x = \{L, W, B\}$	MOVB \$-1,%AL
<b>MOVsx op1, op2</b>	$op2 \leftarrow \text{ExtSign}(op1)$	$xy = \{BW, BL, WL\}$	MOVSBW %CH,%AX
<b>MOVZxy op1, op2</b>	$op2 \leftarrow \text{ExtZero}(op1)$	$xy = \{BW, BL, WL\}$	MOVZWL %BX,%EDX
<b>PUSHL op1</b>	$\%ESP \leftarrow \%ESP - 4;$ $M[\%ESP] \leftarrow op1$		PUSHL 12(%EBP)
<b>POPL op1</b>	$op1 \leftarrow M[\%ESP];$ $\%ESP \leftarrow \%ESP + 4;$		POPL %EAX
<b>LEAL op1, op2</b>	$op2 \leftarrow \&op1$	op1: memory	LEAL (%EBX,%ECX),%EAX



# MOVZ Instruction

MOVZ WL /BX, /EDX

OP2  $\leftarrow$  ExtZero(op1)

/BX 1001 1100 0001 1101

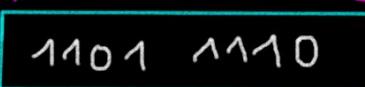
/EDX 0000 0000 0000 0001 001 1100 0001 1101



# MOVS Instruction

MOVSBW  $\times\text{CH}$ ,  $\times\text{AX}$

$\times\text{AX} \leftarrow \text{ExtSign}(\times\text{CH})$

$\times\text{CH}$   8 bits

$\times\text{AX}$   16 bits