

Asm. Language commands we use so far in the class.

MOV AL, 4Ah ; Move to the AL register the value 4A(16) = 74(10)

MOV AL, BL ; Copy the value of the BL register to the AL register

INC DL ; Increment the register DL by 1 $\rightarrow (DL) = (DL) + 1$

DEC DL; Decrement the register DL by 1 $\rightarrow DL = DL - 1$

ADD AL, 3 $\rightarrow (AL) = (AL) + 3$

SUB BL, 4 $\rightarrow BL = BL - 4$

CMP AL, 45h ; Compares the value of the AL register to the value of 45h

; If the AL register is equal to 45(16) then the zero flag is set.

Ddd: Location in the program that we can jump to (a label)

Jump commands:

JMP ddd ; The program will jump to the location labeled ddd.

; The above is a non-conditional jump.

Conditional jumps.

JC ; Jump if the carry flag is set to 1. Ex: JC ddd

JNC ; Jump if the carry flag is not set to 1. i.e. it is zero

JZ ; Jump if the zero flag is set to 1.

JNZ; Jump if the zero flag is not set to 1.

JS ; Jump if the sign flag is set to 1 EX: JS ddd

JNS; Jump if the sign flag is not set to 1

MUL XYZ ; Multiplies the A register by the value of the Variable XYZ

DIV XYZ ; Divides the A register by the value of XYZ. Quotient \rightarrow A register

Remainder \rightarrow D register.

In 8 bits register numbers are 0000-0000 – 1111-1111 0→(10)-255(10)

In 16 bits register the number are from 0 -64K

In 32 bits register the numbers are from 0 – 4G

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mov ah, 6 ; displays the value of the DL register  
int 21h ; library call
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mov ax, 4c00h ; ends the program
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int 21h ; library call
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MOV AH, 1 ; ENABLE THE USER TO ENTER A SINGLE KEY
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```
INT 21H ; LIBRARY CALL
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MOV AH, 9 ; DISPLAYS A STRING THAT THE DX REGISTER POINTS TO.
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```
INT 21H ; LIBRARY CALL
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SHL → Shift left with Carry
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SHR → Shift right with Carry
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AND EAX, 0000000Fh Makes and a bit by bit AND operation between the  
EAX register and the value 0000000Fh.
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