

Microprocessor

Just Note: LEA - LDS

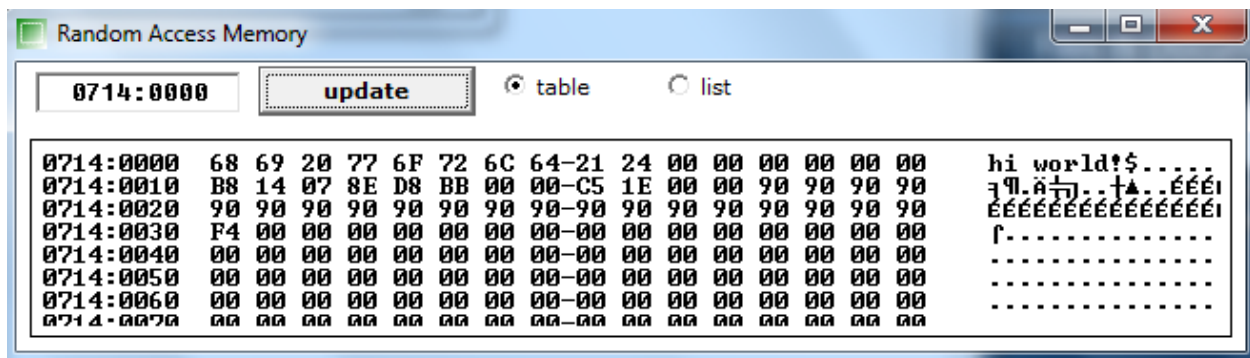
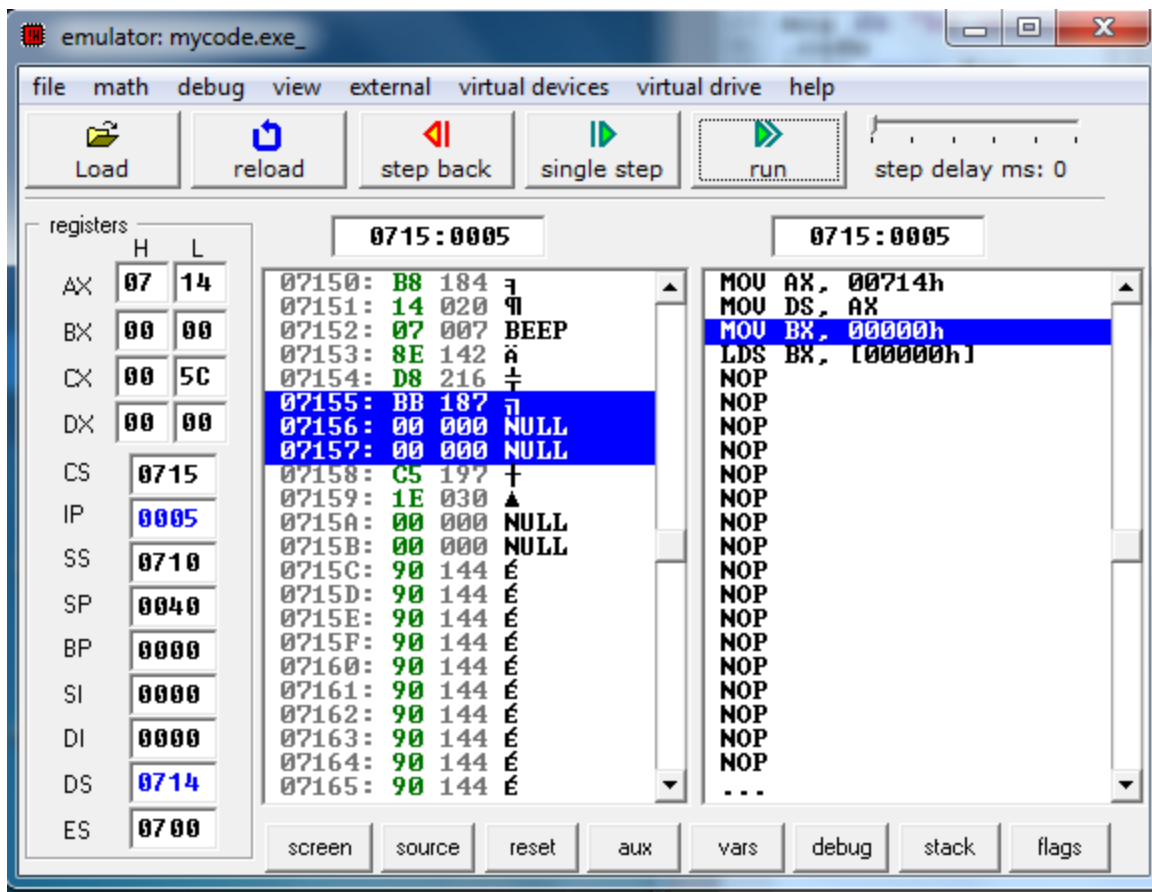
LEA— Load Effective Address

LEA loads 16-bit register with the offset address of the data specified by the operand

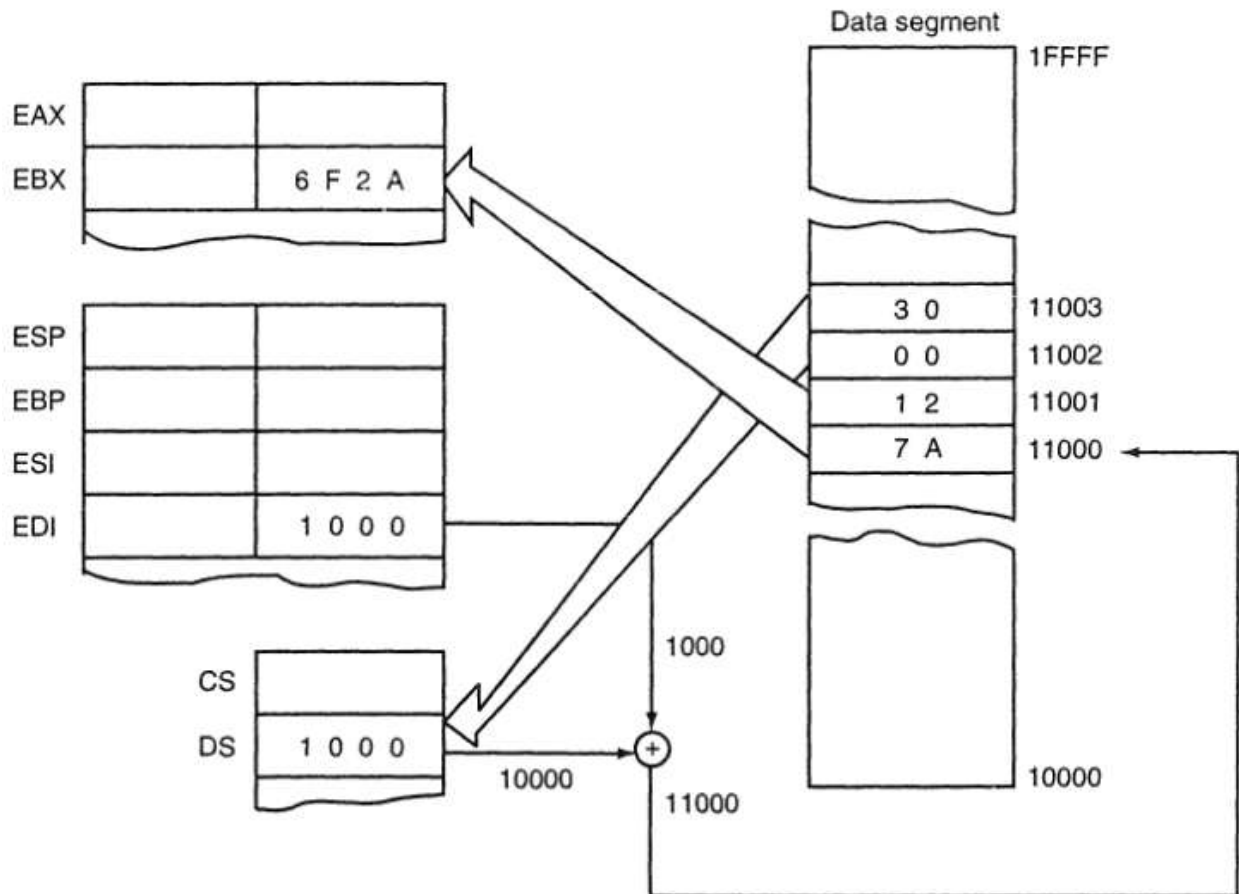
LEA AX, NUMB → loads AX with the address of NUMB

Example

```
.model small
.stack 64
.data
msg db "hi world!$"
.code
main proc far
    mov ax,@data
    mov ds,ax
    lea bx,msg
    lds bx,msg
    main endp
end main
```

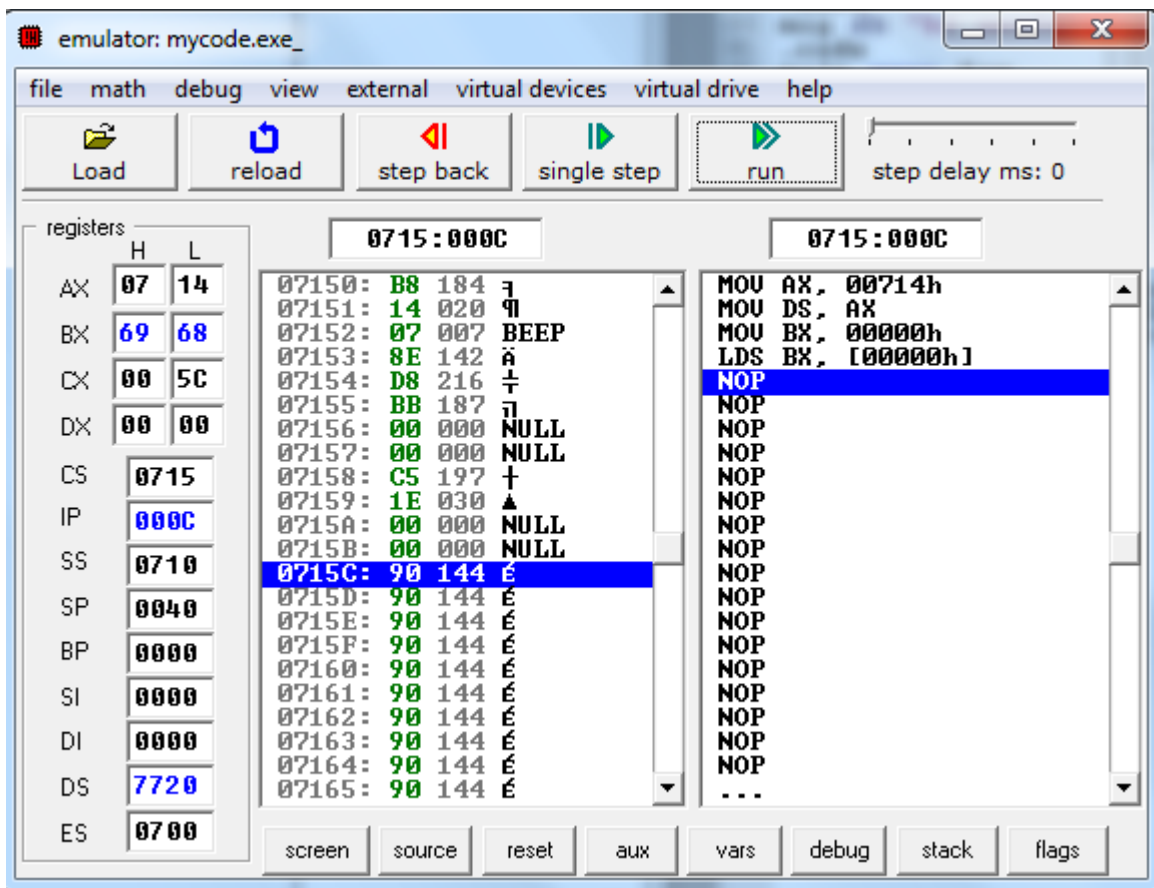


LDS— Load Effective Address



LDS BX, [DI]

It loads register BX from addresses 11000 and 11001H and registers DS from locations 11002H and 11003H.



Example:

Given that DS = 1200H, CS = 1100, IP = 0100, and memory content is

11100	C5
11101	36
11102	00
11103	20
11104	xx

12200	20
12201	00
12202	00
12203	13

What is the result of executing the following instruction:

LDS SI,[200H]

SI = 0020

DS = 1300

Example:

Verify the execution of the instruction in the example above using DEBUG

-r ip

IP 0100

:

-r cs

CS 13B2

:1100

-r ds

DS 13B2

:1200

-r si

SI 0000

:

-e 200 20 00 00 13

-a 0100

1100:0100 **lds si,[200]**

1100:0104

-r ip

IP 0100

:

-t

AX=0000 BX=0000 CX=0000 DX=0000 SP=FFEE BP=0000 **SI=0020** DI=0000

DS=1300 ES=13B2 SS=13B2 CS=1100 IP=0104 NV UP EI PL NZ NA PO NC

1100:0104 68 DB 68