

Instruction Set of 8086 MP



3. Load effective address (LEA) instruction

Syntax of LEA

LEA REG_{16} , Effective address ; load REG_{16} with offset address
 $\searrow$ EA

Ex:

LEA SI,[3F0D]

LET:
BX=2000 DI=1000

SI=3F0D LEA SI,[BX+DI+05]

EA=DI+BX+05=1000+2000+05=3005

SI=3005

Data transfer instructions

4. Load REG_{16} and DS (LDS) instruction

Syntax of LDS

LDS $REG_{16},(EA)$; $REG_{16} \leftarrow$ content of (EA)
DS $\leftarrow$ content of (EA+2) } 4 BYTE (DOUBLE WORD)_TRANSFER

Ex:

```
LDS BX,[1000]
BX=2211
DS=C24E
```

	:
DS:1000	11
DS:1001	22
DS:1002	4E
DS:1003	C2
	:

Ex: Write an alternative program for previous instruction.

```
MOV BX,[1000]
MOV DS,[1002]
```

Data transfer instructions



Ex:

LET: DI=1000 DS=3F0A

LDS AX,[DI]

WHAT IS THE CONTENT OF AX AND DS

$PA = DS * 10 + DI$

$= 3F0A0 + 1000 = 400A0$

After execution of instruction

AX=005F DS=4FEF

	:
400A0	5F
400A1	00
400A2	EF
400A3	4F
	:

Data transfer instructions

5. Load REG_{16} and ES (LES) instruction

Syntax of LES

LES $REG_{16}, (EA)$; $REG_{16} \leftarrow \text{content of } (EA)$
ES $\leftarrow \text{content of } (EA+2)$ }

4 BYTE (DOUBLE
WORD_TRANSFER

Ex:

LES BX,[BX]

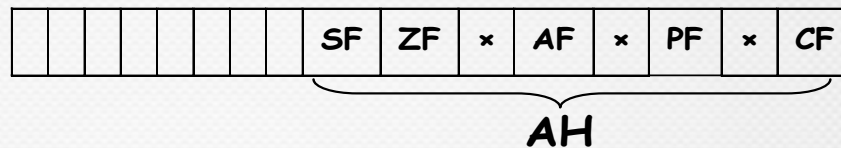
LES DX,[3000]

Data transfer instructions

6. Load AH from flags (LAHF) instruction

Syntax of LAHF

LAHF ; AH ← content of 8 low bits of flag



7. Store AH into flags (SAHF) instruction

Syntax of SAHF

SAHF ; 8 low bits of flag ← AH

XLAT instruction

the translation instruction used for lookup table operation.

Syntax

XLAT

operation
; AL ← [(AL) + (BX) + DS*10]

Offset of element which is to be accessed
of lookup

from the looking table

Base address(start)

table from the begging of
current data segment

Note: size of AL = 8 bits

Maximum size of table = $2^8 = 256$ location.

Ex: you have table save in data segment at address F800:1000 the content of location in this table are the square of number from 0 to 9. Write program to find the square for any number from this table.

```
MOV AX,F800
MOV DS,AX
MOV BX,1000
MOV AL,05
XLAT
```

