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BRANCH :- Comps -B. **BRANCH:** B.

EXPERIMENT 2: Simulate the operation of COPY and PASTE in 8086.

SUBJECT :- CAO (COMPUTER ARCHITECTURE AND ORGANIZATION)

TOPIC :- COPYING 10 16-BIT NUMBERS FROM SOURCE INDEX TO DESTINATION INDEX.

CODE :-

data segment

data ends

code segmet

assume cs:code,ds:data

start:

mov ax,1000h

mov ds,ax

mov si,0000h

mov di,2000h

mov cx,0Ah

xyz:

mov ax,[si]

mov [di],ax

add si,02

add di,02

dec cx

jnz xyz

mov ah,4ch

int 21h

code ends

end start

OUTPUT :-

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Run File [manish2.exe]:
List File [nul.map]:
Libraries [libl]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\HOME\STUDENTS\MANISH\8086>debug manish2.exe
-d 1000:0000
1000:0000 8A 45 0E 2A E4 50 9A D1-06 3B 12 83 C4 02 89 46 .E.*.P....F
1000:0010 FC 0B C0 75 05 9A 8E FA-A2 01 8B 5C 0C 8A 47 16 ...u.....\..G.
1000:0020 8B 5E FC 8B 07 FF 74 0C-E8 29 1A 8B 46 FC 89 44 ^.....t...).F..D
1000:0030 0C C6 44 0E 01 C6 44 0B-02 80 7C 0B 02 75 5D 8A ..D...D...l..u1.
1000:0040 44 0E 2A E4 89 46 F4 8B-5E 04 3B 47 02 73 30 FF D.*..F..^.:G.s0.
1000:0050 77 02 FF 74 0C 9A 53 07-3B 12 83 C4 04 89 44 0C w..t..S.:.....D.
1000:0060 03 46 F4 89 46 FC 8B 5E-04 8B 46 F4 39 47 02 76 .F..F..^..F.9G.v
1000:0070 22 8B 5E FC FF 46 FC C6-07 20 FF 46 F4 EB E7 8B ".^..F....F....
-e 1000:0000
1000:0000 8A.2B 45.09 0E.24 2A.08 E4.13 50.03 9A.55 D1.66
1000:0008 06.77 3B.88 12.99 83.00 C4.11 02.22 89.33 46.44
1000:0010 FC.02 0B.98 C0.64 75.14
-g
Program terminated normally

```

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
Program terminated normally
-d 1000:2000h
^ Error
-d 1000:2000
1000:2000 28 09 24 08 13 03 55 66-77 88 99 00 11 22 33 44 (.$....Ufw...."3D
1000:2010 02 98 64 14 00 00 00 00-F0 06 00 00 00 00 00 ..d.....
1000:2020 FB 06 00 00 00 00 00 00-00 07 00 00 00 00 00 .....
1000:2030 08 07 00 00 00 00 00 00-10 07 00 00 00 00 00 .....
1000:2040 1B 07 00 00 00 00 00 00-20 07 00 00 00 00 00 .....
1000:2050 28 07 00 00 00 00 00 00-30 07 00 00 00 00 00 (.....0.....
1000:2060 3B 07 00 00 00 00 00 00-40 07 00 00 00 00 00 8.....e.....
1000:2070 4B 07 00 00 00 00 00 00-50 07 00 00 00 00 00 H.....P.....
-d 1000:0000
^ Error
-d 1000:0000
1000:0000 28 09 24 08 13 03 55 66-77 88 99 00 11 22 33 44 (.$....Ufw...."3D
1000:0010 02 98 64 14 05 9A 8E FA-A2 01 8B 5C 0C 8A 47 16 ..d.....\..G.
1000:0020 8B 5E FC 8B 07 FF 74 0C-E8 29 1A 8B 46 FC 89 44 ^.....t...).F..D
1000:0030 0C C6 44 0E 01 C6 44 0B-02 80 7C 0B 02 75 5D 8A ..D...D...l..u1.
1000:0040 44 0E 2A E4 89 46 F4 8B-5E 04 3B 47 02 73 30 FF D.*..F..^.:G.s0.
1000:0050 77 02 FF 74 0C 9A 53 07-3B 12 83 C4 04 89 44 0C w..t..S.:.....D.
1000:0060 03 46 F4 89 46 FC 8B 5E-04 8B 46 F4 39 47 02 76 .F..F..^..F.9G.v
1000:0070 22 8B 5E FC FF 46 FC C6-07 20 FF 46 F4 EB E7 8B ".^..F....F....

```

TOPIC :- COPYING 10 16-BIT NUMBERS FROM ONE SEGMENT TO ANOTHER SEGMENT.

CODE :-

```
data segment
data ends
code segment
assume cs:code, ds:data
start:
mov ax,1000h
mov ds,ax
mov si,0000h
mov di,0000h
mov cx,0Ah
mov ax,2000h
mov es,ax
xyz:
mov ax,[si]
mov es:[di],ax
add si,02
add di,02
dec cx
jnz xyz
mov ah,4ch
int 21h
code ends
end start
```

OUTPUT :-

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
  Warning Errors
  Severe Errors

C:\HOME\STUDENTS\MANISH\8086>link manish2b.obj

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Run File [manish2b.exe]:
List File [nul.map]:
Libraries [lib]:
Definitions File [nul.def]:
LINK : warning L4021: no stack segment

C:\HOME\STUDENTS\MANISH\8086>debug manish2b.exe
-d 1000:0000
1000:0000 8A 45 0E 2A E4 50 9A D1-06 3B 12 83 C4 02 89 46 .E.*.P....F
1000:0010 FC 0B C0 75 05 9A 8E FA-A2 01 8B 5C 0C 8A 47 16 ...u.....N..G.
1000:0020 8B 5E FC 8B 07 FF 74 0C-E8 29 1A 8B 46 FC 89 44 .^....t...).F..D
1000:0030 0C C6 44 0E 01 C6 44 0B-02 80 7C 0B 02 75 5D 8A ..D...D...l..ul.
1000:0040 44 0E 2A E4 89 46 F4 8B-5E 04 3B 47 02 73 30 FF D.*..F..^.;G.s0.
1000:0050 77 02 FF 74 0C 9A 53 07-3B 12 83 C4 04 89 44 0C w..t..S.;.....D.
1000:0060 03 46 F4 89 46 FC 8B 5E-04 8B 46 F4 39 47 02 76 .F..F..^..F.9G.v
1000:0070 22 8B 5E FC FF 46 FC C6-07 20 FF 46 F4 EB E7 8B ".^..F....F....

```

```

DOSBox 0.74, Cpu speed: 3000 cycles, Frameskip 0, Program: DEBUG
1000:0040 44 0E 2A E4 89 46 F4 8B-5E 04 3B 47 02 73 30 FF D.*..F..^.;G.s0.
1000:0050 77 02 FF 74 0C 9A 53 07-3B 12 83 C4 04 89 44 0C w..t..S.;.....D.
1000:0060 03 46 F4 89 46 FC 8B 5E-04 8B 46 F4 39 47 02 76 .F..F..^..F.9G.v
1000:0070 22 8B 5E FC FF 46 FC C6-07 20 FF 46 F4 EB E7 8B ".^..F....F....

-e 1000:0000
1000:0000 8A.2B

-e 1000:0000
1000:0000 28.28 45.09 0E.11 2A.22 E4.33 50.44 9A.55 D1.66
1000:0008 06.77 3B.88 12.99 83.00 C4. 02.12 89.23 46.34
1000:0010 FC.45 0B.56 C0.67 75.78

-g
Program terminated normally
-d 2000:0000
2000:0000 28 09 11 22 33 44 55 66-77 88 99 00 C4 12 23 34 (... "3DUfw.....#4
2000:0010 45 56 67 78 00 00 00 00-00 00 00 00 00 00 00 00 Eux.....
2000:0020 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....
2000:0030 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....
2000:0040 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....
2000:0050 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....
2000:0060 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....
2000:0070 00 00 00 00 00 00 00 00-00 00 00 00 00 00 00 00 .....

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