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POA EXPERIMENT 7

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Experiment 7 : Transfer 'n' blocks of data from segments

Aim : Implement assembly program to transfer 'n' blocks of data segment from 1 block to other.

Theory :

Code is written to tranfer 'n' blocks of data from seg 1 to seg 2 (here 3 bytes of data). First section contains data & extra segment where seg 1 & 2 are defined respectively. In code segment, firstly actual execution is done. where firstly data & extra segment are loaded i.e. DS & ES , then loading source & destination indices. Later, tranfer loop is carried on where

→ MOV AH, DS : [SI] means Loading byte from source into AH register, where SI acts as offset & gets added with base DS.

→ MOV ES : [DI], AH is same as above where DI acts as offset. The loop counter (CX) ensures that specified no. of bytes is transferred.

→ INT3 is an interrupt.

Conclusion :

We implemented data transfer from seg 1 to 2 using assembly language on 8086 microprocessor.

Code :

```
DATA SEGMENT
   SEG1 DB 1H, 2H, 3H
DATA ENDS

EXTRA SEGMENT
  SEG2 DB ?
EXTRA ENDS

CODE SEGMENT
  START:
  MOV AX,DATA
  MOV DS,AX
  MOV AX,EXTRA
  MOV ES,AX
  LEA SI, SEG1
  LEA DI, SEG2
  MOV CX,03H

  L1:
  MOV AH,DS:[SI]
  MOV ES:[DI],AH
  INC SI
  INC DI
  DEC CX
  JNZ L1
  INT 3

ENDS
END START
```
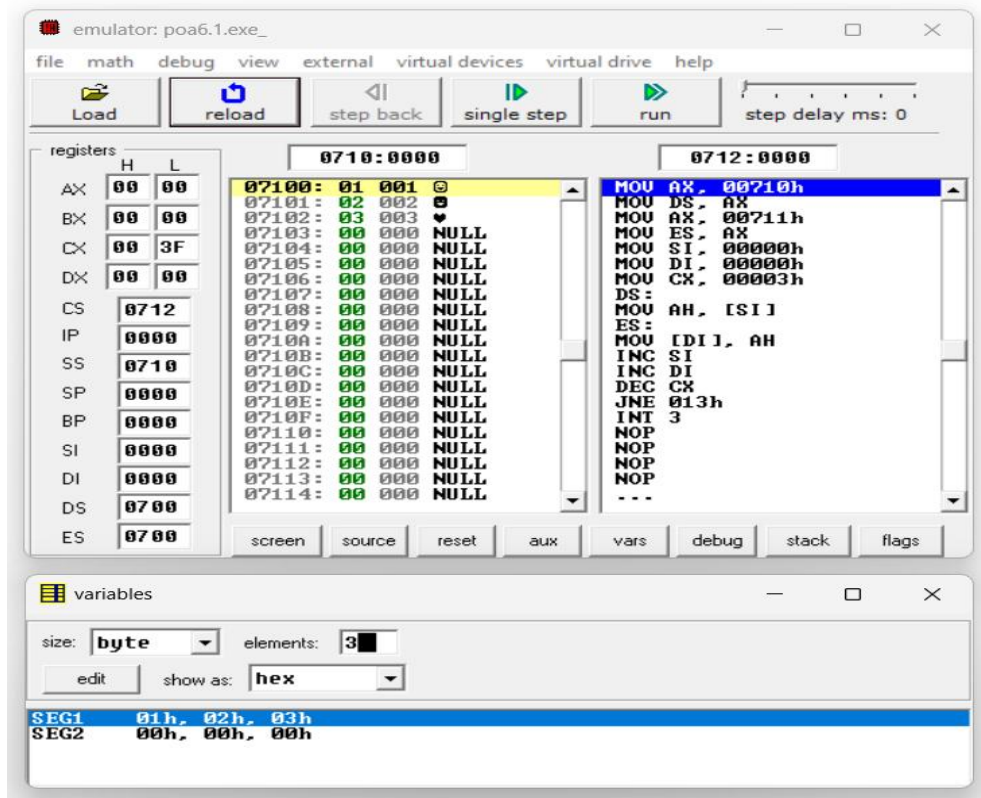
Output :

- <u>Before (seg1 has blocks and they are to transferred to seg2) -</u>

- <u>After (blocks are transferred to seg2) -</u>