## Lab 3

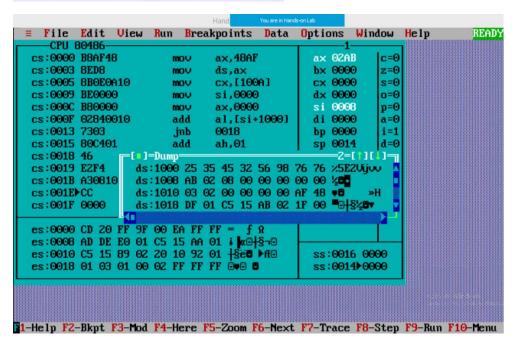
P1: Write a program to add an array of eight 2-digit hexadecimal numbers stored in memory and store the result in memory.

```
LAB 3
P1: MODEL SMALL
   · STACK 20
   DATA
   ORG 1000 H
   NUM DB 254,354, 454, 324, 564, 984, 764, 764
   SUM DW ?
   COUNT DW OOO8H
   . CODE
START:
   Mov Ax, @ DATA Horse wd Trues
   MOV DS, AX
   MOV CX, COUNT
   MOV SI, 0000H XA 2d VOM
MOV AX,0000H 344000 X0 VOM
   REPEAT: ADD AL, NUMEST
           ADD AM, OI
    NEXT: INC SI 234 SMI
   NEXT: INC SI

took LOOP REPEAT 12 AM STRAN

MOV SUM, AX TRANSAM 9064

E THE
   INT 3
    END START
```

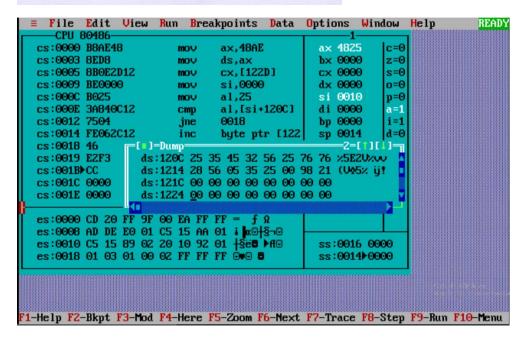


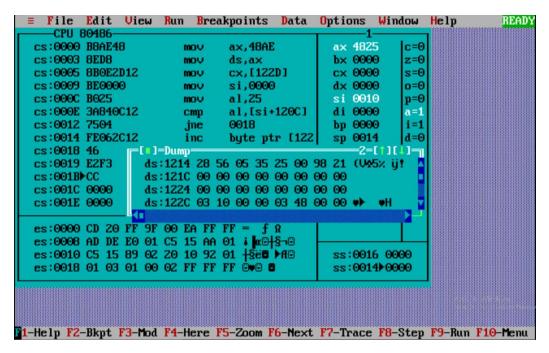
DS: 1000H

Output at 1008, 02AB (ie the sum of the numbers in array)

P2: Write a program to count number of occurrences of the byte 25H in the given array of 16-bytes stored starting from 1200H. Also store the result in 1220H memory location.

```
PO. MODEL SMALL
   . STACK 20
   . DATA
   ORG 1200 H
   ARRAY DB 254, 354, 454, 324, 564, 254,
             764,761, 28 H, 564, 054, 354,
             25n, 00H, 984, 21H
    ORG 12204
    RES DB?
   COUNT DW OOIOH
    . COOE
    START:
    MOV AX, @ DATA
    XA ,20 VOM
    MOV CX, COUNT
    MOV AL, 254 MUN JA GOA TARTER
    REPEAT: CMP AL, ARRAY EST
           JNE NEXT
            INC RES
    LOOP REPEAT 12 JUL : TX3N
    LOOP REPEAT
    INT 3
    END START
```

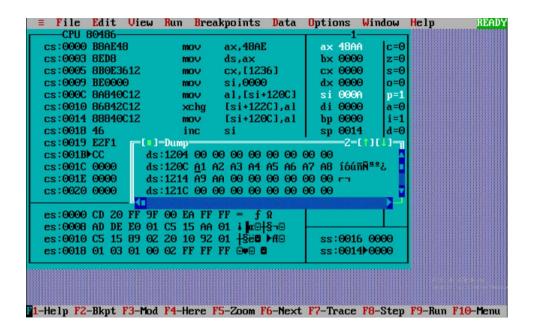


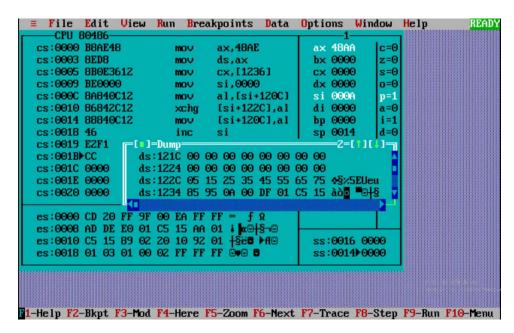


Output at 122C ie 3 times 25H occurs in ARRAY

P3: Write a program to exchange two data blocks of length 10-bytes stored in memory starting from 1200H and 1220H respectively.

```
P3: MODEL SMALL
  · STACK 20
  DATA
  ORG 1200H
   ARRAYI DB 05 n, ISH, 25 h, 35 h, 45 h, 55 h
    65h, 75h, 85h, 95h
   ORG 12201
  ARRAY2 DB OAIN, OA2H, OA3H, OA4H, OASH, OA6H
           OATH, OASH, OAGH, OAAd
   COUNT DW OOOAH
  CODE
  START:
  MOV AX, @ DATA
  MOV DS, AX
   MOV CX, COUNT
   H0000, 12 VOM
  REPEAT: MOV AL ARRAYI [SI]
          MOV ARRAYI [SI] AL
           INC SI JO CI
           LOOP REPEAT
   INT 3
                        INZ INT
   END START
```

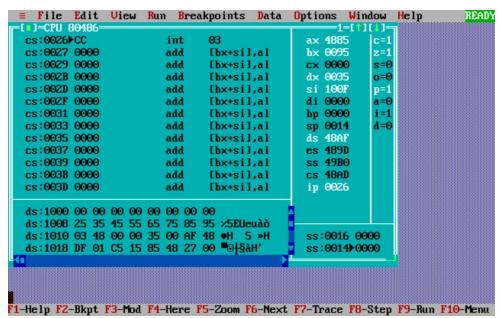




DS:120C Values interchanged at 120C and 122C

P4: Write a program to arrange the given array of 8-bit binary numbers stored in the memory in ascending order. NUM DB 95H, 85H, 75H, 65H, 55H, 45H, 35H, 25H

```
PY: MODEL SMALL
   · STACK 20
   . DATA
   ORG 1000H
   NUM DB 954, 854, 754, 654, 554, 454,
            35 H, 25H
    . CODE
     START:
    MOV AX, @DATA
     MOV DS, AX
     MOV CH, OTH
    X2: MOV CL, OTH
         LEA SI, NUM
     X1: MOV AL, EST]
         MOV BL, ESI+1]
         CMP AL, BL
         JC REPEAT
         MOV DL, ESI+1)
         XCHG ESIJ, DL
         MOV CSI+1], DL
    REPEAT: INC SI
           DEC CL
           JNZ XI
           DEC CH
           JNZ XZ INT 3 END START
```



DS:1000H

Output at 1008H, numbers arranged in ascending order