AIDS MICROPROCESSOR LAB S21 BATCH (2023-24)

Experiment 5(a) Title: Assembly language programming to perform code conversion ASCII to BCD using software tool TASM 1.4

Name of student: Meet Raut   Class Roll Number: 2201084

Date of Performance: 18/03/2024

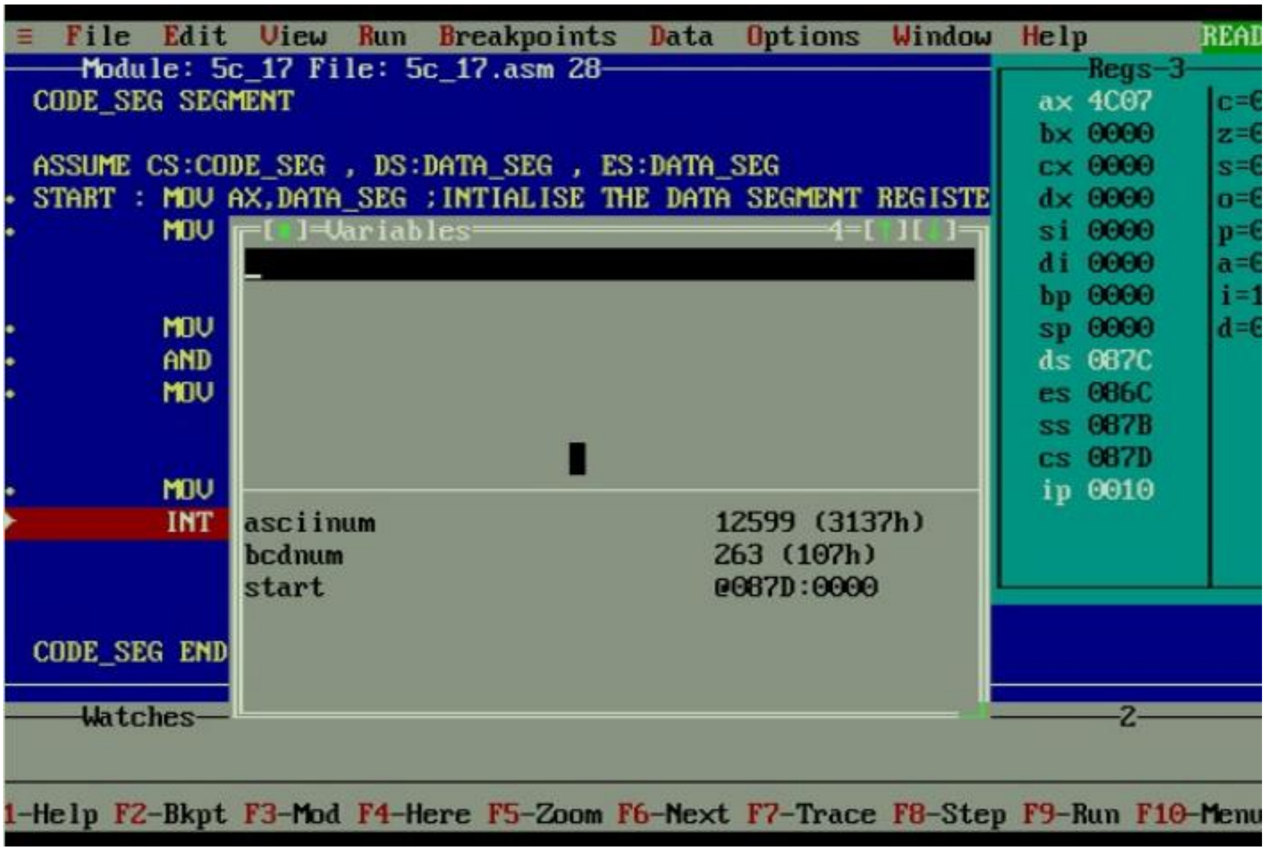
Batch: S2-1   Timing: 3:00-5:00   Date of Submission: 18/03/2024

Assembly language code

```
DATA_SEG SEGMENT
    ASCIINUM DW 3137H
    BCDNUM DW 0
DATA_SEG ENDS

CODE_SEG SEGMENT
ASSUME CS:CODE_SEG , DS:DATA_SEG , ES:DATA_SEG
START :
MOV AX,DATA_SEG          #INTIALISE THE DATA SEGMENT REGISTER
MOV DS,AX
MOV AX,ASCIINUM         #STORE ASCII NUMBER IN AX
AND AX,0F0FH            #AND OPERATE BETWEEN ASCII NUMBER AND OFOFH
MOV BCDNUM,AX          #MOVE THE RESULT OF AND IN AX INTO BCDIUM
MOV AH,4CH             #REQUEST TO TERMINATE
INT 21H                #EXIT TO DOS
CODE_SEG ENDS
END START
```

Result :


≡ File Edit View Run Breakpoints Data Options Window Help READ
Watches
2
1-Help F2-Bkpt F3-Mod F4-Here F5-Zoom F6-Next F7-Trace F8-Step F9-Run F10-Menu

```
Module: 5c_17 File: 5c_17.asm 28
CODE_SEG SEGMENT

ASSUME CS:CODE_SEG , DS:DATA_SEG , ES:DATA_SEG
START : MOV AX,DATA_SEG ;INTIALISE THE DATA SEGMENT REGISTE
        MOV


        MOV
        AND
        MOV


        MOV
        INT


CODE_SEG END
```

```
[■]=Variables=4=[↑][↓]
asciinum                      12599 (3137h)
bcdnum                        263 (107h)
start                         @087D:0000
```

```
Regs-3
ax 4C07   c=0
bx 0000   z=0
cx 0000   s=0
dx 0000   o=0
si 0000   p=0
di 0000   a=0
bp 0000   i=1
sp 0000   d=0
ds 087C
es 086C
ss 087B
cs 087D
ip 0010
```

Experiment 5(b) Title: Assembly language programming to perform code conversion BCD to ASCII using software tool TASM 1.4

Name of student: Meet Raut   Class Roll Number: 2201084

Date of Performance: 18/03/2024

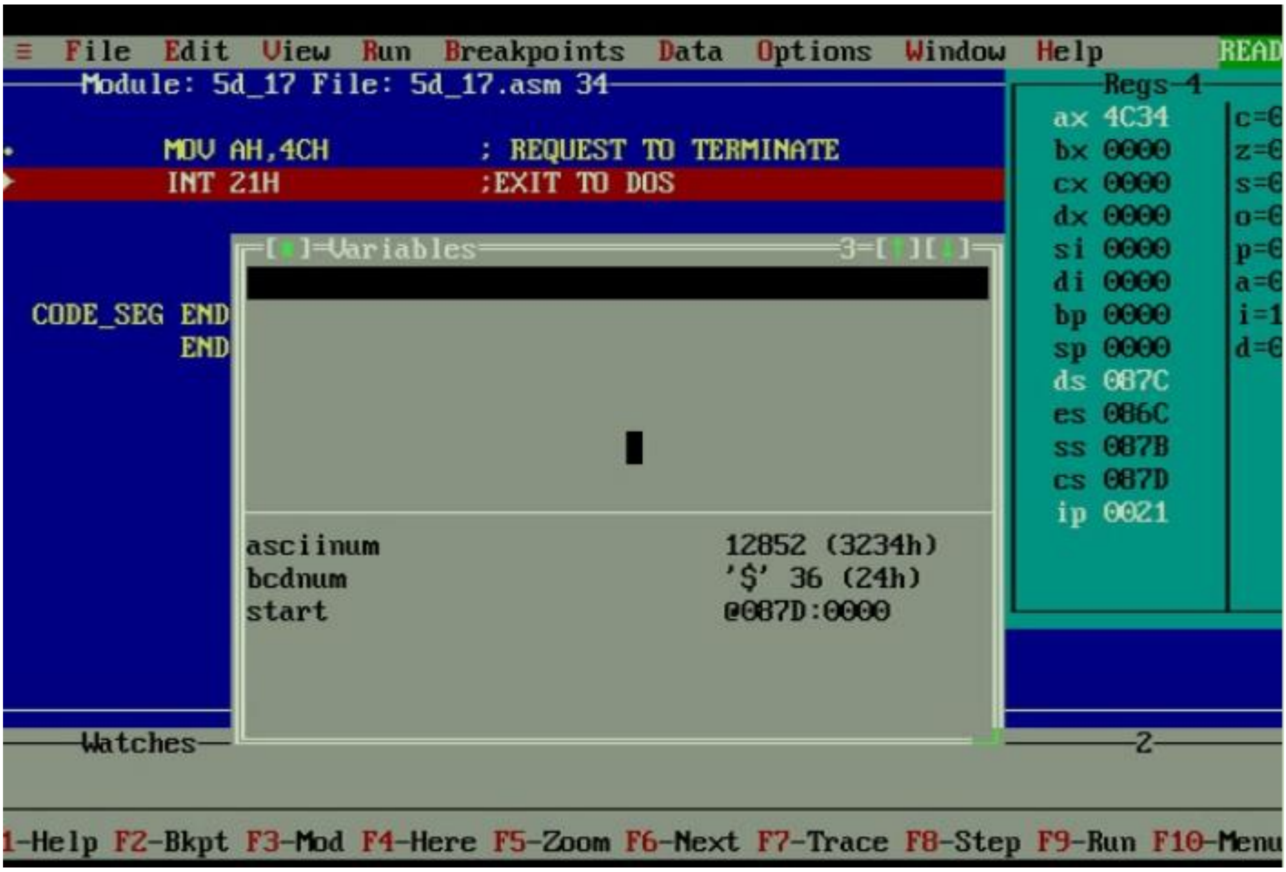
Batch: S2-1   Timing: 3:00-5:00   Date of Submission: 18/03/2024

Assembly language code

```
DATA_SEG SEGMENT
   ASCIINUM DW 0
   BCDNUM DB 24H
DATA_SEG ENDS

CODE_SEG SEGMENT
ASSUME CS:CODE_SEG , DS:DATA_SEG , ES:DATA_SEG
START :
MOV AX,DATA_SEG       #INTIALISE THE DATA SEGMENT REGISTER
MOV DS,AX
MOV AH,BCDNUM         #MOV PACKED BCD NUMBER INTO AH,AL
MOV AL,BCDNUM
AND AH,0F0H         #LOGICAL AND OPERATION  BETWEEN AH AND OPEN
SHR AH,4             #RIGHT SHIFT AH BY 4 BITS
AND AL,0FH           #AND OPERATION BETWEEN AL AND F0H
OR AX,3030H           #LOGICAL OR OPERATION BETWEEN AX AND 3030H
MOV ASCIINUM,AX          #MOVE AX IN ASCIINUM
MOV AH,4CH              # REQUEST TO TERMINATE
INT 21H               #EXIT TO DOS
CODE_SEG ENDS
END START
```

Result :


≡ File Edit View Run Breakpoints Data Options Window Help READ
Watches
2
1-Help F2-Bkpt F3-Mod F4-Here F5-Zoom F6-Next F7-Trace F8-Step F9-Run F10-Menu

```
Module: 5d_17 File: 5d_17.asm 34

        MOV AH,4CH            ; REQUEST TO TERMINATE
        INT 21H               ;EXIT TO DOS

  CODE_SEG END
           END
```

```
[ ]=Variables=3=[ ][ ]
asciinum                    12852 (3234h)
bcdnum                      '$' 36 (24h)
start                       @087D:0000
```

```
Regs-4
ax 4C34   c=0
bx 0000   z=0
cx 0000   s=0
dx 0000   o=0
si 0000   p=0
di 0000   a=0
bp 0000   i=1
sp 0000   d=0
ds 087C
es 086C
ss 087B
cs 087D
ip 0021
```

***CONCLUSION:* LO 2, LO 3 mapped.**

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