

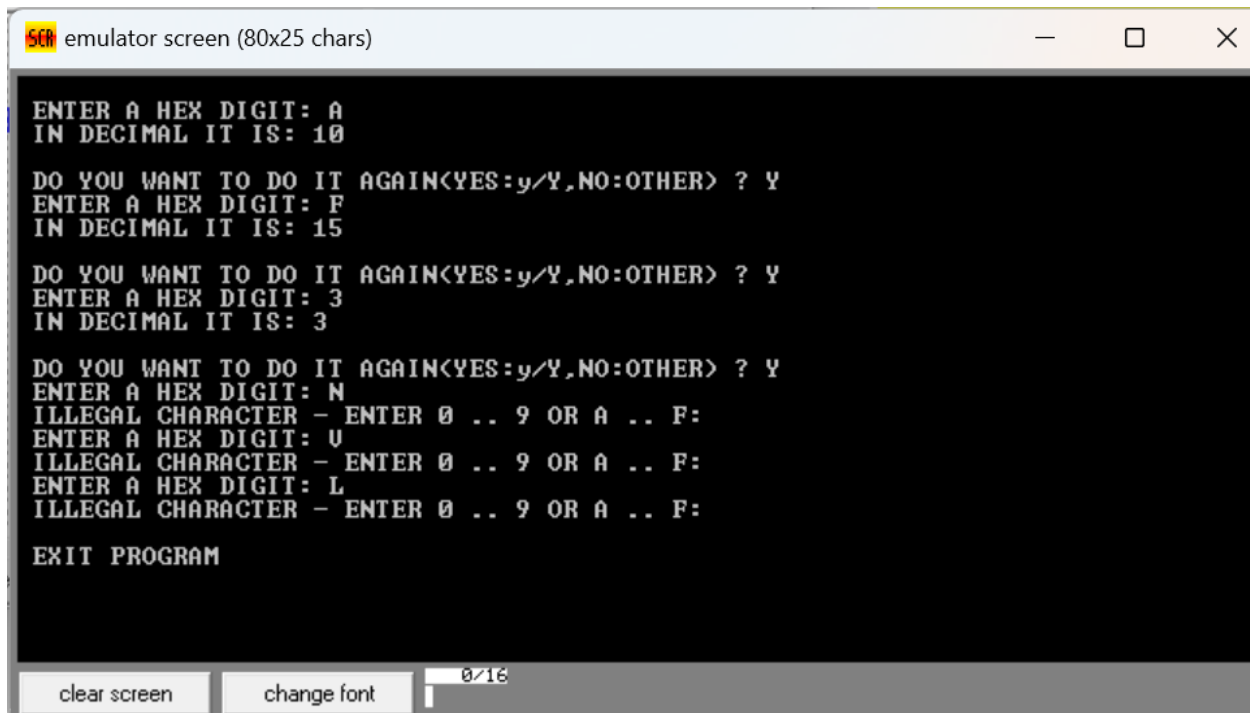
Problem statement:

An assembly program that will ask user to enter a hex digit (0-9 ...A-F) and print it's decimal value and prompt user if he wants to continue.If yes again enter a hex value else terminate program.If user enters wrong input 3 times program will terminate.

Code:

<pre>.MODEL SMALL .STACK 100H .DATA MSG_ENTER DW 10,13,"ENTER A HEX DIGIT: \$" MSG_DEC DW 10,13,"IN DECIMAL IT IS: \$" MSG_WRONG_INPUT DW 10,13,"ILLEGAL CHARACTER - ENTER 0 .. 9 OR A .. F:\$" ONE DW '1\$' AGAIN DW 10,13,10,13,'DO YOU WANT TO DO IT AGAIN(YES:y/Y,NO:OTHER) ? \$' T DW 10,13,10,13,'EXIT PROGRAM\$' .CODE MAIN PROC MOV AX,@DATA MOV DS,AX MOV BH,0 ENTER_HEX: ;ENTER HEX DIGIT LEA DX,MSG_ENTER MOV AH,9 INT 21H ;INPUT A CHARACTER MOV AH,1 INT 21H MOV BL,AL ;IF BL>=A && BL <=F CMP BL,'A' JNGE ELSE_IF CMP BL,'F' JNLE ELSE_IF</pre>	<pre>;PRINT DEC MSG LEA DX,MSG_DEC MOV AH,9 INT 21H ;PRINT 1 LEA DX,ONE MOV AH,9 INT 21H SUB BL,17 MOV AH,2 MOV DL,BL INT 21H JMP END_IF ELSE_IF: ;BL>=0 , BL<=9 CMP BL,'0' JNGE ELSE CMP BL,'9' JNLE ELSE ;PRINT DEC MSG LEA DX,MSG_DEC MOV AH,9 INT 21H MOV AH,2 MOV DL,BL INT 21H JMP END_IF ELSE: ;WRONG INPUT LEA DX,MSG_WRONG_INPUT MOV AH,9 INT 21H</pre>	<pre> INC BH CMP BH,3 JNGE ENTER_HEX JGE EXIT END_IF: LEA DX,AGAIN MOV AH,9 INT 21H MOV AH,1 INT 21H MOV BL,AL CMP BL,'Y' JE ENTER_HEX CMP BL,'y' JE ENTER_HEX EXIT: LEA DX,T MOV AH,9 INT 21H MOV AH,4CH INT 21H MAIN ENDP END MAIN</pre>
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Output:



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emulator screen (80x25 chars)

ENTER A HEX DIGIT: A
IN DECIMAL IT IS: 10

DO YOU WANT TO DO IT AGAIN<YES:y/Y,NO:OTHER> ? Y
ENTER A HEX DIGIT: F
IN DECIMAL IT IS: 15

DO YOU WANT TO DO IT AGAIN<YES:y/Y,NO:OTHER> ? Y
ENTER A HEX DIGIT: 3
IN DECIMAL IT IS: 3

DO YOU WANT TO DO IT AGAIN<YES:y/Y,NO:OTHER> ? Y
ENTER A HEX DIGIT: N
ILLEGAL CHARACTER - ENTER 0 .. 9 OR A .. F:
ENTER A HEX DIGIT: U
ILLEGAL CHARACTER - ENTER 0 .. 9 OR A .. F:
ENTER A HEX DIGIT: L
ILLEGAL CHARACTER - ENTER 0 .. 9 OR A .. F:

EXIT PROGRAM
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clear screen change font 0/16