

Assignment Name:

Write an assembly code to glow the first character of every member of a group on Dot Matrix Display scrolling every character and showing the member number in SSD and also the color of dot matrix in LED.

Solution:

A8 SEGMENT
PARA PUBLIC
'CODE'

ASSUME
CS:A8

ORG 1000H

START:

		MOV AL,BYTE PTR CS:[SI+4]	MOV AL,BYTE PTR CS:[SI+13]	MOV AL,BYTE PTR CS:[SI+22]	MOV AL,BYTE PTR CS:[SI+31]
;control register turn on		OUT 1BH,AL	OUT 19H,AL	OUT 1CH,AL	OUT 1AH,AL
MOV AL,80H			MOV AL,BYTE PTR CS:[SI+14]	MOV AL,BYTE PTR CS:[SI+23]	MOV AL,BYTE PTR CS:[SI+32]
OUT 1FH,AL		MOV AL,BYTE PTR CS:[SI+5]	OUT 1BH,AL	OUT 19H,AL	OUT 1CH,AL
MOV AL,80H		OUT 18H,AL		MOV AL,BYTE PTR CS:[SI+24]	MOV AL,BYTE PTR CS:[SI+33]
OUT 1EH,AL		MOV AL,BYTE PTR CS:[SI+6]	MOV AL,BYTE PTR CS:[SI+15]	OUT 1BH,AL	OUT 19H,AL
M: MOV SI,OFFSET DATA		OUT 1AH,AL	OUT 18H,AL		MOV AL,BYTE PTR CS:[SI+34]
MOV DL,00H		MOV AL,BYTE PTR CS:[SI+7]	MOV AL,BYTE PTR CS:[SI+16]	MOV AL,BYTE PTR CS:[SI+25]	OUT 1BH,AL
		OUT 1CH,AL	OUT 1AH,AL	OUT 18H,AL	
M1: MOV BX,00H		MOV AL,BYTE PTR CS:[SI+8]	MOV AL,BYTE PTR CS:[SI+17]	MOV AL,BYTE PTR CS:[SI+26]	MOV AL,BYTE PTR CS:[SI+35]
		OUT 19H,AL	OUT 1CH,AL	OUT 1AH,AL	OUT 18H,AL
M2:		MOV AL,BYTE PTR CS:[SI+9]	MOV AL,BYTE PTR CS:[SI+18]	MOV AL,BYTE PTR CS:[SI+27]	MOV AL,BYTE PTR CS:[SI+36]
MOV AL,BYTE PTR CS:[SI]		OUT 1BH,AL	OUT 19H,AL	OUT 1CH,AL	OUT 1AH,AL
OUT 18H,AL		MOV AL,BYTE PTR CS:[SI+10]	MOV AL,BYTE PTR CS:[SI+19]	MOV AL,BYTE PTR CS:[SI+28]	MOV AL,BYTE PTR CS:[SI+37]
MOV AL,BYTE PTR CS:[SI+1]		OUT 18H,AL	OUT 1BH,AL	OUT 19H,AL	OUT 1CH,AL
OUT 1AH,AL		MOV AL,BYTE PTR CS:[SI+11]	MOV AL,BYTE PTR CS:[SI+20]	MOV AL,BYTE PTR CS:[SI+29]	MOV AL,BYTE PTR CS:[SI+38]
MOV AL,BYTE PTR CS:[SI+2]		OUT 1AH,AL	OUT 18H,AL	OUT 1BH,AL	OUT 19H,AL
OUT 1CH,AL		MOV AL,BYTE PTR CS:[SI+12]	MOV AL,BYTE PTR CS:[SI+21]	MOV AL,BYTE PTR CS:[SI+30]	MOV AL,BYTE PTR CS:[SI+39]
MOV AL,BYTE PTR CS:[SI+3]		OUT 1CH,AL	OUT 1AH,AL	OUT 18H,AL	OUT 1BH,AL
OUT 19H,AL					

	DB 0FFH	DB 0FFH	DB 0FFH	DB 00H	DB 0F9H
INC BX	DB 0FFH	DB 0FFH	DB 00H	DB 0F9H	DB 01H
CMP BX,0FFFH	DB 00H	DB 00H	DB 0F9H	DB 01H	
JNE M2	DB 0F9H	DB 0F9H	DB 01H		
	DB 01H	DB 01H		DB 0FFH	;2
ADD SI,40			DB 0FFH	DB 0FFH	DB 0FFH
INC DL	DB 0FFH	DB 0FFH	DB 0F3H	DB 00H	DB 0FFH
CMP DL,16H	DB 0FFH	DB 0FFH	DB 040H	DB 0F9H	DB 00H
JNE M1	DB 00H	DB 00H	DB 0F9H	DB 01H	DB 0A4H
JMP M	DB 0F9H	DB 0F9H	DB 01H		DB 02H
	DB 01H	DB 01H	DB 0FFH	DB 0FFH	
DATA:			DB 0FDH	DB 0FFH	DB 0FFH
;0.8					
DB 0FFH	DB 0FFH	DB 0FFH	DB 080H	DB 00H	DB 0FFH
DB 0FFH	DB 0FFH	DB 0FFH	DB 0F9H	DB 0F9H	DB 00H
DB 0FFH	DB 00H	DB 00H	DB 01H	DB 01H	DB 0A4H
DB 00H	DB 0F9H	DB 0F9H			DB 02H
DB 0F9H	DB 01H	DB 01H	;1	DB 0FFH	
DB 01H			DB 0FFH	DB 0F3H	DB 0FFH
	DB 0FFH	DB 0FFH	DB 0FFH	DB 020H	DB 0FFH
DB 0FFH	DB 0FFH	DB 0FFH	DB 00H	DB 0F9H	DB 00H
DB 0FFH	DB 00H	DB 00H	DB 0F9H	DB 01H	DB 0A4H
DB 00H	DB 0F9H	DB 0F9H	DB 01H		DB 02H
DB 0F9H	DB 01H	DB 01H		DB 0FFH	
DB 01H			DB 0FFH	DB 0FDH	DB 0FFH
	DB 0FFH	DB 0FFH	DB 0FFH	DB 040H	DB 0FFH
DB 0FFH	DB 0F3H	DB 0FFH	DB 00H	DB 0F9H	DB 00H
DB 0FFH	DB 080H	DB 00H	DB 0F9H	DB 01H	DB 0A4H
DB 00H	DB 0F9H	DB 0F9H	DB 01H		DB 02H
DB 0F9H	DB 01H	DB 01H		DB 0FFH	
DB 01H			DB 0FFH	DB 081H	DB 0FFH
	;0.9	DB 0FFH	DB 0FFH	DB 080H	DB 0F3H

DB 010H	DB 0FFH	DB 040H	DB 0FDH	DB 0FFH	DB 0B7H
DB 0A4H	DB 00H	DB 0A4H	DB 08H	DB 0FFH	DB 0FFH
DB 02H	DB 0A4H	DB 02H	DB 0A4H	DB 00H	DB 020H
	DB 02H		DB 02H	DB 0A4H	DB 0A4H
DB 0FFH		DB 0B7H		DB 02H	DB 02H
DB 0FDH	DB 0FFH	DB 0FFH	DB 0FFH		
DB 020H	DB 0FFH	DB 080H	DB 083H		DB 0B7H
DB 0A4H	DB 00H	DB 0A4H	DB 010H	DB 0FFH	DB 0FFH
DB 02H	DB 0A4H	DB 02H	DB 0A4H	DB 0F3H	DB 040H
	DB 02H		DB 02H	DB 02H	DB 0A4H
DB 0FFH				DB 0A4H	DB 02H
DB 083H	DB 0FFH	;4	DB 0C1H	DB 02H	
DB 040H	DB 0F3H	DB 0FFH	DB 0FFH		DB 0C1H
DB 0A4H	DB 08H	DB 0FFH	DB 020H	DB 0FFH	DB 0FFH
DB 02H	DB 0A4H	DB 00H	DB 0A4H	DB 0FDH	DB 080H
	DB 02H	DB 0A4H	DB 02H	DB 04H	DB 0A4H
DB 0C1H		DB 02H		DB 0A4H	DB 02H
DB 0FFH	DB 0FFH		DB 0B7H	DB 02H	
DB 080H	DB 0FDH	DB 0FFH	DB 0FFH		
DB 0A4H	DB 010H	DB 0FFH	DB 040H	DB 0FFH	;6
DB 02H	DB 0A4H	DB 00H	DB 0A4H	DB 083H	DB 0FFH
	DB 02H	DB 0A4H	DB 02H	DB 08H	DB 0F3H
		DB 02H		DB 0A4H	DB 01H
;3	DB 0FFH		DB 0B7H	DB 02H	DB 0B0H
DB 0FFH	DB 083H	DB 0FFH	DB 0FFH		DB 0C0H
DB 0FFH	DB 020H	DB 0F3H	DB 080H	DB 0C1H	
DB 00H	DB 0A4H	DB 04H	DB 0A4H	DB 0FFH	DB 0FFH
DB 0A4H	DB 02H	DB 0A4H	DB 02H	DB 010H	DB 0FDH
DB 02H		DB 02H		DB 0A4H	DB 02H
	DB 0C1H			DB 02H	DB 0B0H
DB 0FFH	DB 0FFH	DB 0FFH	;5		DB 0C0H

	DB 0DBH		DB 0C0H		DB 0C0H
DB 0FFH	DB 0DBH	DB 0B7H		DB 0ADH	
DB 083H	DB 080H	DB 0FFH	DB 0C1H	DB 0ADH	DB 0C1H
DB 04H	DB 0B0H	DB 010H	DB 0FFH	DB 040H	DB 0FFH
DB 0B0H	DB 0C0H	DB 0B0H	DB 02H	DB 0B0H	DB 08H
DB 0C0H		DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H
			DB 0C0H		DB 0C0H
DB 0C1H	;7	DB 0C1H		DB 0B5H	
DB 0FFH	DB 0FFH	DB 0FFH	DB 0B7H	DB 0B5H	DB 0DBH
DB 08H	DB 0FDH	DB 020H	DB 0FFH	DB 080H	DB 0DBH
DB 0B0H	DB 01H	DB 0B0H	DB 04H	DB 0B0H	DB 010H
DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H
	DB 0C0H		DB 0C0H		DB 0C0H
DB 0B7H		DB 0DBH			
DB 0FFH	DB 0FFH	DB 0DBH	DB 0B7H	;9	DB 0ADH
DB 010H	DB 083H	DB 040H	DB 0FFH	DB 0C1H	DB 0ADH
DB 0B0H	DB 02H	DB 0B0H	DB 08H	DB 0FFH	DB 020H
DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H	DB 01H	DB 0B0H
	DB 0C0H		DB 0C0H	DB 0B0H	DB 0C0H
DB 0B7H		DB 0ADH		DB 0C0H	
DB 0FFH	DB 0C1H	DB 0ADH	DB 0C1H		DB 0B5H
DB 020H	DB 0FFH	DB 080H	DB 0FFH	DB 0B7H	DB 0B5H
DB 0B0H	DB 04H	DB 0B0H	DB 010H	DB 0FFH	DB 040H
DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H	DB 02H	DB 0B0H
	DB 0C0H		DB 0C0H	DB 0B0H	DB 0C0H
DB 0C1H				DB 0C0H	
DB 0FFH	DB 0B7H	;8	DB 0DBH		DB 0DBH
DB 040H	DB 0FFH	DB 0FFH	DB 0DBH	DB 0B7H	DB 0DBH
DB 0B0H	DB 08H	DB 083H	DB 020H	DB 0FFH	DB 080H
DB 0C0H	DB 0B0H	DB 01H	DB 0B0H	DB 04H	DB 0B0H
	DB 0C0H	DB 0B0H	DB 0C0H	DB 0B0H	DB 0C0H

	;c4;	DB B7H	DB 99H	DB 99H	;c5;
;10.....	DB ADH	DB FFH	DB 01H	DB 01H	DB FFH
	DB ADH	DB 01H			DB DBH
;c0;	DB 10H	DB 99H	;c5;	;c1;	DB 20H
DB B7H	DB 99H	DB 01H	DB DBH	DB DBH	DB 99H
DB FFH	DB 01H		DB DBH	DB DBH	DB 01H
DB 01H		;c1;	DB 20H	DB 02H	
DB 99H	;c5;	DB C1H	DB 99H	DB 99H	;c6;
DB 01H	DB B5H	DB FFH	DB 01H	DB 01H	DB FFH
	DB B5H	DB 02H			DB ADH
;c1;	DB 20H	DB 99H	;c6;	;c2;	DB 40H
DB B7H	DB 99H	DB 01H	DB FFH	DB ADH	DB 99H
DB FFH	DB 01H		DB DBH	DB ADH	DB 01H
DB 02H		;c2;	DB 40H	DB 04H	
DB 99H	;c6;	DB DBH	DB 99H	DB 99H	;c7;
DB 01H	DB DBH	DB DBH	DB 01H	DB 01H	DB FFH
	DB DBH	DB 04H			DB B5H
;c2;	DB 40H	DB 99H	;c7;	;c3;	DB 80H
DB C1H	DB 99H	DB 01H	DB FFH	DB B5H	DB 99H
DB FFH	DB 01H		DB ADH	DB B5H	DB 01H
DB 04H		;c3;	DB 80H	DB 08H	
DB 99H	;c7;	DB ADH	DB 99H	DB 99H	;12.....;
DB 01H	DB FFH	DB ADH	DB 01H	DB 01H	
	DB DBH	DB 08H			;c0;
;c3;	DB 80H	DB 99H		;c4;	DB DBH
DB DBH	DB 99H	DB 01H	;11.5.....;	DB DBH	DB DBH
DB DBH	DB 01H			DB DBH	DB 01H
DB 08H		;c4;	c0;	DB 10H	DB 99H
DB 99H	;11.....;	DB B5H	DB C1H	DB 99H	DB 01H
DB 01H		DB B5H	DB FFH	DB 01H	
	;c0;	DB 10H	DB 01H		;c1;

DB ADH	DB 99H	DB 99H	;c6;	DB DBH	DB 01H
DB ADH	DB 01H	DB 01H	DB FFH	DB 04H	
DB 02H			DB DBH	DB 99H	;c7;
DB 99H	;c6;	;c2;	DB 40H	DB 01H	DB FFH
DB 01H	DB FFH	DB DBH	DB 99H		DB FFH
	DB B5H	DB DBH	DB 01H	;c3;	DB 00H
;c2;	DB 40H	DB 04H		DB FFH	DB 99H
DB B5H	DB 99H	DB 99H	;c7;	DB ADH	DB 01H
DB B5H	DB 01H	DB 01H	DB FFH	DB 08H	
DB 04H			DB FFH	DB 99H	;15.....;
DB 99H	;c7;	;c3;	DB 00H	DB 01H	;c0;
DB 01H	DB FFH	DB FFH	DB 99H		DB DBH
	DB DBH	DB DBH	DB 01H	;c4;	DB DBH
;c3;	DB 80H	DB 08H		DB FFH	DB 01H
DB DBH	DB 99H	DB 99H	;14.....;	DB B5H	DB 99H
DB DBH	DB 01H	DB 01H	;c0;	DB 10H	DB 01H
DB 08H			DB B5H	DB 99H	
DB 99H	;13.....;	;c4;	DB B5H	DB 01H	;c1;
DB 01H		DB FFH	DB 01H		DB FFH
		DB ADH	DB 99H	;c5;	DB DBH
;c4;	;c0;	DB 10H	DB 01H	DB FFH	DB 02H
DB FFH	DB ADH	DB 99H		DB DBH	DB 99H
DB DBH	DB ADH	DB 01H	;c1;	DB 20H	DB 01H
DB 10H	DB 01H		DB DBH	DB 99H	
DB 99H	DB 99H	;c5;	DB DBH	DB 01H	;c2;
DB 01H	DB 01H	DB FFH	DB 02H		DB FFH
		DB B5H	DB 99H	;c6;	DB ADH
;c5;	;c1;	DB 20H	DB 01H	DB FFH	DB 04H
DB FFH	DB B5H	DB 99H		DB FFH	DB 99H
DB ADH	DB B5H	DB 01H	;c2;	DB 00H	DB 01H
DB 20H	DB 02H		DB FFH	DB 99H	

;c3;	DB 00H	DB 01H	;c0;	DB 00H	DB 01H
DB FFH	DB 99H		DB FFH	DB 99H	
DB B5H	DB 01H	;c4;	DB ADH	DB 01H	;c1;
DB 08H		DB FFH	DB 01H		DB FFH
DB 99H	;16.....;	DB FFH	DB 99H	;c5;	DB DBH
DB 01H	;c0;	DB 00H	DB 01H	DB FFH	DB 02H
	DB FFH	DB 99H		DB FFH	DB 99H
;c4;	DB DBH	DB 01H	;c1;	DB 00H	DB 01H
DB FFH	DB 01H		DB FFH	DB 99H	
DB DBH	DB 99H	;c5;	DB B5H	DB 01H	;c2;
DB 10H	DB 01H	DB FFH	DB 02H		DB FFH
DB 99H		DB FFH	DB 99H	;c6;	DB FFH
DB 01H	;c1;	DB 00H	DB 01H	DB FFH	DB 00H
	DB FFH	DB 99H		DB FFH	DB 99H
;c5;	DB ADH	DB 01H	;c2;	DB 00H	DB 01H
DB FFH	DB 02H		DB FFH	DB 99H	
DB FFH	DB 99H	;c6;	DB DBH	DB 01H	;c3;
DB 00H	DB 01H	DB FFH	DB 04H		DB FFH
DB 99H		DB FFH	DB 99H	;c7;	DB FFH
DB 01H	;c2;	DB 00H	DB 01H	DB FFH	DB 00H
	DB FFH	DB 99H		DB FFH	DB 99H
;c6;	DB B5H	DB 01H	;c3;	DB 00H	DB 01H
DB FFH	DB 04H		DB FFH	DB 99H	
DB FFH	DB 99H	;c7;	DB FFH	DB 01H	;c4;
DB 00H	DB 01H	DB FFH	DB 00H		DB FFH
DB 99H		DB FFH	DB 99H	;18.....;	DB FFH
DB 01H	;c3;	DB 00H	DB 01H	;c0;	DB 00H
	DB FFH	DB 99H		DB FFH	DB 99H
;c7;	DB DBH	DB 01H	;c4;	DB B5H	DB 01H
DB FFH	DB 08H		DB FFH	DB 01H	
DB FFH	DB 99H	;17.....;	DB FFH	DB 99H	;c5;

DB FFH	DB FFH	DB 99H
DB FFH	DB FFH	DB 01H
DB 00H	DB 00H	
DB 99H	DB 99H	;c6;
DB 01H	DB 01H	DB FFH
		DB FFH
;c6;	;c2;	DB 00H
DB FFH	DB FFH	DB 99H
DB FFH	DB FFH	DB 01H
DB 00H	DB 00H	
DB 99H	DB 99H	;c7;
DB 01H	DB 01H	DB FFH
		DB FFH
;c7;	;c3;	DB 00H
DB FFH	DB FFH	DB 99H
DB FFH	DB FFH	DB 01H
DB 00H	DB 00H	
DB 99H	DB 99H	EXIT:
DB 01H	DB 01H	
		A8 ENDS
;19.....;	;c4;	END START
	DB FFH	
	DB FFH	
;c0;	DB 00H	
DB FFH	DB 99H	
DB DBH	DB 01H	
DB 01H		
DB 99H	;c5;	
DB 01H	DB FFH	
	DB FFH	
;c1;	DB 00H	