

File Edit Search View Options Help

C:\MASM\BS1.ASM

```
.model small
;macro to display the message....
display macro msg
    lea dx,msg
    mov ah,09h
    int 21h
endm

.data
list db 01h,05h,07h,10h,12h,14h
number equ ($-list)
key db 012h
msg1 db 0dh,0ah, "element found in the list...$"
msg2 db 0dh,0ah, "search failed!! Element not found in the list $"

.code
start : mov ax, @data
        mov ds, ax

        mov ch, number-1
        mov cl, 00h
again:  mov si, offset list
```

F1=Help

Line:1

Col:1

```
again:  mov si, offset list
        xor ax, ax
        cmp cl, ch
        je next
        jnc failed
next:   mov al, cl
        add al, ch
        shr al, 8h
        mov bl, al
        xor ah, ah
        mov bp, ax
        mov al, ds:[bp][si]
        cmp al, key
        je success
        jc inc low
        mov ch, bl
        dec ch
        jmp again
inc low: mov cl, bl
        inc cl
        jmp again
```

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C:\MASM\BS1.ASM

```
jc incLow  
mov ch, bl  
dec ch  
jmp again
```

```
incLow: mov cl, bl  
inc cl  
jmp again
```

```
success: display msg1  
jmp final
```

```
failed: display msg2
```

```
FINAL: MOV AH, 4CH  
INT 21H
```

```
END START
```



DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, ...

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Unable to open input file: SB1.ASM

C:\MASH>MASH BS1 ;;

Microsoft (R) Macro Assembler Version 5.00

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51488 + 465056 Bytes symbol space free

0 Warning Errors

0 Severe Errors

C:\MASH>LINK BS1 ;;

Microsoft (R) Overlay Linker Version 3.60

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LINK : warning L4021: no stack segment

C:\MASH>BS1

element found in the list...

C:\MASH>

DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...

File

Edit

View

Search

Run

Watch

Options

Calls

Help

source1 CS:IP (ACTIVE)

reg

052A:0037	BD161500	LEA	DX,Word Ptr [0015]	AX = 4C12
052A:003B	B409	MOV	AH,09	BX = 0004
052A:003D	CD21	INT	21	CX = 0503
052A:003F	EB09	JMP	001A	DX = 0015
052A:0041	90	NOP		SP = 0000
052A:0042	BD163400	LEA	DX,Word Ptr [0034]	BP = 0004
052A:0046	B409	MOV	AH,09	SI = 000E
052A:0048	CD21	INT	21	DI = 0000
052A:004A	B44C	MOV	AH,4C	DS = 052E
052A:004C	CD21	INT	21	ES = 051A
052A:004E	0105	ADD	Word Ptr [DI],AX	SS = 0529
052A:0050	07	POP	ES	CS = 052A
052A:0051	1012	ADC	Byte Ptr [BP+SI],DL	IP = 004E
052A:0053	1412	ADC	AL,12	FL = 0246
052A:0055	0D0A65	OR	AX,650A	
052A:0058	6C	INSD		

Comments

052E:0000

09 90 BD 16 34 00 B4 09 CD 21 B4 4C CD 21 01 05

....4

052E:0010

07 10 12 14 12 0D 0A 65 6C 65 6D 65 6E 74 20 66

.....

052E:0020

6F 75 6E 64 20 69 6E 20 74 68 65 20 6C 69 73 74

ound

NU UP EI PL

ZR NA PE NC

DS:0000

9099

MODEL SMALL

DISPLAY MACRO MSG

LEA DX, MSG

MOV AH, 09H

INT 21H

ENDM

.DATA

LIST DB 01H, 05H, 07H, 10H, 12H, 14H

NUMBER EQU (\$-LIST)

KEY DB 012H

MSG1 DB 00H, 0AH, "ELEMENT FOUND IN THE LIST.: \$"

MSG2 DB 0AH, 0AH, "SEARCH FAILED!! ELEMENT NOT FOUND IN THE LIST. \$"

.CODE

START: MOV AX, @DATA

MOV DS, AX

MOV CH, NUMBER-1 ; HIGH VALUE ...

MOV CL, 00H ; LOW VALUE ...

AGAIN: MOV SI, OFFSET LIST

XOR AX, AX

CMP CL, CH

JE NEXT

JNC FAILED

NEXT: MOV AL, CL

ADD AL, CH

SHR AL, 01H ; DIVIDE BY 2

MOV BL, AL

XOR AH, AH ; CLEAR AH

MOV BP, AX

MOV AL, DS:[BP][SI]



CMP AL, KEY ; COMPARE KEY AND A[I]

JE SUCCESS ; IF EQUAL, DISPLAY SUCCESS MESSAGE

JC INLOW

MOV CH, BL ; IF KEY > A[I] SHIFT HIGH

DEC CH

JMP AGAIN

INLOW: MOV CL, BL ; IF KEY < A[I] SHIFT LOW

INC CL

JMP AGAIN

SUCCESS: DISPLAY MSG1

JMP FINAL

FAILED: DISPLAY MSG2 ; JOB OVER, TERMINATE

FINAL: MOV AH, 4CH

INT 21H

END START