

MP LAB

.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 ; High Value...

MOV CL, 00H ; Low Value...

Again : MOV SI, Offset List

XOR AX, AX

CMP CL, CH ; $CL < CH$

JE Next

JNC failed

Next: MOV AL, CL ; $mid = low + high / 2$ $0 + 5 / 2 = 2$

ADD AL, CH

SHR AL, 01H ; Divide by 2

MOV BL, AL

XOR AH, AH ; Clear AH

MOV ~~BP~~ BP, AX

MOV AL, DS:[BP][SI]

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

JE SUCCESS ; if equal, Display success message

JC In low

MOV CH, BL ; If $key > A[I]$ shift ^{high} ~~low~~

DEC CH

JMP Again

In low: MOV CL, BL ; If $key < A[I]$ shift low

INC CL

JMP AGAIN

SUCCESS: DISPLAY MSG 1

JMP FINAL

FAILED: DISPLAY MSG 2 ; JOB OVER. TERMINATE

FINAL: MOV AH, 4CH

INT 21H