```
.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 ($-LIST)    ; number here is hving the
                                    value 6
KEY DB 10H
MSG1 DB 0DH, 0AH, "ELEMENT FOUND IN
                      THE LIST...$"
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....
                                 HERE VALUE IS
                                  6 - 1 = 5
       MOV CL, 00H          ; LOW VALUE....


AGAIN:     MOV ST, OFFSET LIST  ; LEA SI,
                                        LIST
           XOR  AX, AX  ; MOV AX, 00H
           CMP  CL, CH  ; SUBTRACTION OF CL - CH
           JE   NEXT
           JNC  FAILED


NEXT :   MOV AL, CL   ; AL = 00H
         ADD AL, CH   ; AL = 00 + 05 = 05
     SHR AL, 01H    ; DIVIDE BY 2 --> Al will have
                       the index of mid element


     MOV BL, AL  ; BL --> index of mid element
     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
JC   INCLOW                        MESSAGE
MOV  CH ,BL    ; IF KEY > A[I] SHIFT HIGH
DEC  CH    ; CH  will have index of middle -1
                element (search from low to
                          middle -1)

JMP  AGAIN


INCLOW: MOV CL, BL    ; IF KEY < A[I] SHIFT LOW
        INC CL    ; CL will have index of
                    middle + 1 element
                    (search from mid+1 to high
                                          value)
        JMP AGAIN


SUCCESS : DISPLAY MSG1
          JMP FINAL


FAILED : DISPLAY MSG2    ; JOB OVER .TERMINATE
                                        . . . .

FINAL : MOV AH, 4CH
        INT  21H


END START
```