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USN : 1BM19CS139
Section : 3c
Batch : 2

```
.MODEL SMALL
; MACRO TO DISPLAY THE MESSAGE...          ;..... (comments)
DISPLAY   MACRO   MSG
          LEA  DX, MSG
          MOV  AH, 09H
          INT  21H
ENDM


.DATA
LIST DB  01H, 05H, 07H, 10H, 12H, 14H
NUMBER  EQU ($-LIST)
KEY  DB  01ZH 01H
MSG1 DB  ODH, OAH, "ELEMENT FOUND IN THE LIST...$"
MSG2 DB  ODH, OAH, "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   INCLOW
              MOV  CH, BL            ; IF KEY > A[I]  SHIFT HIGH
              DEC  CH
              JMP  AGAIN
INCLOW :  MOV  CL, BL           ; IF  KEY < A[I]  SHIFT LOW
              INC CL
              JMP AGAIN
SUCCESS :  DISPLAY  MSG1
              JMP  FINAL
FAILED :  DISPBLAY  MSG2   ; JOB OVER. TERMINATE...
FINAL  :  MOV  AH, 4CH
              2HINT  21H
END  START
```