VISHAL
1BM19CS185

```
.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 ($-LIST)
KEY DB 10H
MSG1 DB 0DH, 0AH, "ELEMENT FOUND IN THE LIST...$"
MSG2 DB. 0DH, 0AH, "SEARCH FAILED!! ELEMENT NOT FOUND
                    IN THE LIST $"

.CODE
START :MOV AX, @DATA
       MOV DS, AX
       MOV CH, NUMBER1    ;HIGH VALUE....HERE VALUE IS 6-1=5
       MOV CL, 00H        ;LOW VALUE---
AGAIN : MOV SI, OFFSET LIST ; LEA SI, LISH
        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
                                      middle element.
       MOV BL, AL ; BL -> index of middle 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 MESSAGE
       JC INCLOW
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```
MOV CL, CH will have index of middle-1 element
MOV CH, BL      ; IF KEY < A[I] SHIFT HIGH
DEC CH          ;CH will have index of middle - 1 element
JMP AGAIN

INCLOW: MOV CL, BL      ; IF KEY < A[I] SHIFT LOW
        INC CL          ; CL will have index of middle + 1 element
        JMP AGAIN

SUCCESS: DISPAY MSG1
         JMP FINAL

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

FINAL: MOV AH, 4CH
       INT 21H

END START
```