Lab Program-1

Binary search

```
.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 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....
       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 SUCESS            ; If equal, display success message
        JC INCLOW
        MOV CH, BL
        DEC CH
        JMP AGAIN
```

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INCLOW: MOV CL, BL          ; IF Key < A[I] SHIFL LOW
        INC CL              ; CL will have inder of middle N. element
        JMP AGAIN

SUCCESS : DISPLAY MSG1
          JMP FINAL

FAILED:  DISPLAY MSG2       ; JOB over Terminate.....

FINAL :  MOV AA, 4CH
         INT 21H

END START
```