5)

```
.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 ; LEA SI, LIST
       XOR AX, AX ; MOV AX, 00H
       CMP CL, CH
       JE NEXT
       INC FAILED
NEXT: MOV AL, CL
```

```
        ADD AL, CH
        SHR AL, CH      ; DIVIDE BY 2 -> AL will have the index of middle etc
        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
        JL INCLOW
        MOV CH, BL      ; IF KEY > A[I] SHIFT HIGH
        DEC CH
        JMP AGAIN
INCLOW: MOV CL, BL
        INC CL
        JMP AGAIN
SUCCESS: DISPLAY MSG1
        JMP FINAL
FAILED: DISPLAY MSG2    ; JOB OVER. TERMINATE
FINAL: MOV AH, 4CH
        INT 21H
END START
```