

.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 12H
MSG1 DB 0DH, 0AH, "ELEMENT FOUND IN LIST... $"
MSG2 DB 0DH, 0AH, "SEARCH FAILED!! NO FOUND $"

```

.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 ; clear the AX register
        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[SI]
JE SUCCESS      ; IF EQUAL, DISPLAY SUCCESS MESSAGE
JC INCLOW
MOV CH, BL      ; IF KEY > A[SI] SHIFT HIGH
DEC CH
JMP AGAIN

INCLOW: MOV CL, BL ; IF KEY < A[SI] SHIFT LOW
INC CL
JMP AGAIN

SUCCESS: DISPLAY MSG1
JMP FINAL

FAILED: DISPLAY MSG2
FINAL: MOV AH, 4CH
INT 21H

END START
```