MMC Week-2

Date __/__/____

Binary search

```
.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 An 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
```

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        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: DISPLAY MSG2
FINAL:  MOV AH, 4CH
        INT 21H
END START
```