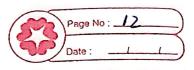12-10-20

① Binary search of a element in the array list.

```
.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    012H
msg1    db    odH, 0aH, " Element found. $"
msg2    db    odH, 0aH, " Element not found $"


.code
start :  mov   ax, @ data
         mov   ds, ax
         mov   cH, number -1
         mov   cl, 00H
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
            mov   bl, al
            XOR   aH, aH
            mov   BP, ax
            mov   al, ds: [BP][SI]
            cmp   al, key
            JE    success
            JC    inclow
            mov   cH, BL
            dec   cH
            JMP   again
inclow :    Mov   cl, bl
            inc   cl
            JMP   again
success :   display  msg1
            JMP   final
failed :    display  msg2
final :     mov   aH, 4ch
            int   21H
End  start
```