



## PRODUCT NAME

SZ044

## TITLE

星期自動調整

## APPLICATION NOTE

函數功能：計算西元 2000 年至 2099 年之星期。

使用方式：輸入西元年、月、日。

計算方法：首先根據年查表得到當年 1 月 1 日的星期。

其次根據月查表得到當前月 1 日和 1 月 1 日的差，計算出當前月 1 日的星期；

最後根據日計算出當前的星期。

Example：

2045 年 12 月 28 日

輸入：yearh=4

yearl=5

month=0cH

dayh=2

dayl=8

輸出：worktmp+2(week)

worktmp+2=00 Sunday

worktmp+2=01 Monday

worktmp+2=02 Tuesday

worktmp+2=03 wednesday

worktmp+2=04 Thursday

worktmp+2=05 friday

worktmp+2=06 Saturday

變量說明：

org 00

yearh (bcd)

yearl (bcd)

month (bin)

dayh (bcd)

dayl (bcd)

org 70h

(計算緩衝區和顯示緩衝區共用)

worktmp (yearl)

worktmp+1(yearh)

worktmp+2(week)

worktmp

table 說明：

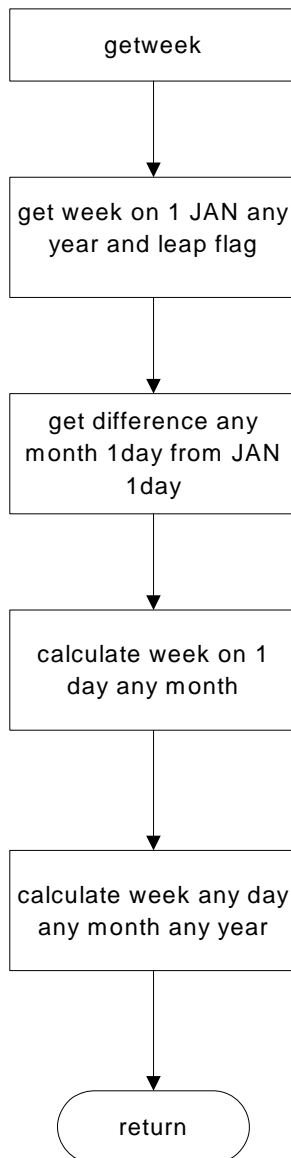
table1：bit0~2 是每年 1 月 1 日的星期，bit3 是閏年的標誌，高 nibble 和低 nibble 一樣；  
地址 26~29 的高 nibble 是調整 dayh 用。

table2：高 nibble 是 any month 1day 和 1 月 1 日的星期差；低 nibble no used

subroutine name：getweek

input：yearl，yearh，month，dayh，dayl

output：worktmp+2(week)



org 00

yearl	dn 1
yearh	dn 1
month	dn 1
dayl	dn 1
dayh	dn 1

org 70h

---

```
worktmp    dn 4    ;(計算緩衝區和顯示緩衝區共用)
```

```
;worktmp(year low) worktmp+1(year high)
```

```
;worktmp+2(week)
```

```
.*****
```

```
,
```

```
;name:      getweek
```

```
;input:     yearh yearl(bcd)
```

```
;month(hex) dayh dayl(bcd)
```

```
;output:    worktmp+2(week)
```

```
.*****
```

```
,
```

```
getweek:
```

```
    call getfirstday
```

```
    andi worktmp,0111b
```

```
    sta worktmp+2
```

```
    lds worktmp+1,monthtabadr
```

```
    lds worktmp+3,0
```

```
    mvh worktmp+1
```

```
    mrw worktmp+1,month
```

```
    mvl worktmp+1
```

```
    ldh worktmp+3,@hl
```

```
    add* worktmp+2
```

```
    call nomoreweek
```

```
    subi worktmp+1,3h
```

```
    jnc noleapyear    ;month<3
```

```
    andi worktmp,1000b
```

```
    jz noleapyear    ;no leap year
```

```
    inc* worktmp+2    ;is leap year
```

```
noleapyear:
```

```
    lds worktmp+1,2h
```

```
    lds worktmp+3,0
```

```
    mvh worktmp+1
```

```
    mrw worktmp+3,dayh ;
```

```
    addi* worktmp+3,6
```

```
    mvl worktmp+3
```

```
    ldh worktmp+3,@hl
```

```
    add* worktmp+2
```

```
    call nomoreweek
```

```
    mrw worktmp+3,dayl
```

```
    add* worktmp+2
```

```
    call nomoreweek
```

```
    dec* worktmp+2
```

```
    jc getweekret
```

```
    lds worktmp+2,06h
```

```
getweekret:
```

```
    rts
```

```
.*****
```

```
,
```

```
;name:fetfirstday
```

```
;input:yearh, yearl
```

```
;output:leap status(worktmp.3)
```

```

;worktmp(1 month 1 day :week(0~2))
.*****
,
getfirstday:
    mrw worktmp,yearl
    mrw worktmp+1,yearh
    addi worktmp,0ah
    adci worktmp+1,0ah
    jnc nomorethan56
    subi* worktmp,06h
    das* worktmp
    sbci* worktmp+1,05h
nomorethan56:
    mvl worktmp
    subi worktmp+1,03h
    jnc loadyearhllow
    subi* worktmp+1,03h
    lds worktmp,0
    mvh worktmp+1
    ldh worktmp,@hl
    rts
loadyearhllow:
    lds worktmp,0
    mvh worktmp+1
    ldl worktmp,@hl
    rts
.*****
,
;name: nomoreweek
;input: worktmpt2(week)
;output:worktmp(week)<=7)
.*****
,
nomoreweek:
    subi* worktmp+2,07h
    jc nomoreweek
    adni* worktmp+2,07h
    rts
;table1*****leap flag and every year 1 month 1 day is week table
    data 000H,00101110B ;Leap Year flag and The week of every year's first day
Table
    data 001H,00110001B ;
    data 002H,11000010B ;2000-->2055
    data 003H,01100011B
    data 004H,00001100B
    data 005H,00010110B
    data 006H,10100000B
    data 007H,01000001B
    data 008H,01011010B
    data 009H,01100100B
    data 010H,10000101B

```

data 011H,00100110B  
data 012H,00111000B  
data 013H,01000010B  
data 014H,11010011B  
data 015H,00000100B  
data 016H,00011101B  
data 017H,00100000B  
data 018H,10110001B  
data 019H,01010010B  
data 020H,01101011B  
data 021H,00000101B  
data 022H,10010110B  
data 023H,00110000B  
data 024H,01001001B  
data 025H,01010011B

data 026H,00000100B ;The high nibble of these four bytes  
data 027H,00110101B ;are be used in week adjust process.  
data 028H,01101110B ;for every 10 days the week should  
data 029H,00100001B ;increase data

;table2\*\*\*\*\*no used :max day of any month data(low nibble) and any month 1 day  
week(high nibble)

data 0E1H,03H  
data 0E2H,30H  
data 0E3H,33H  
data 0E4H,62H  
data 0E5H,13H  
data 0E6H,42H  
data 0E7H,63H  
data 0E8H,23H  
data 0E9H,52H  
data 0EAH,03H  
data 0EBH,32H  
data 0ECH,53H