

# 實用小軟體

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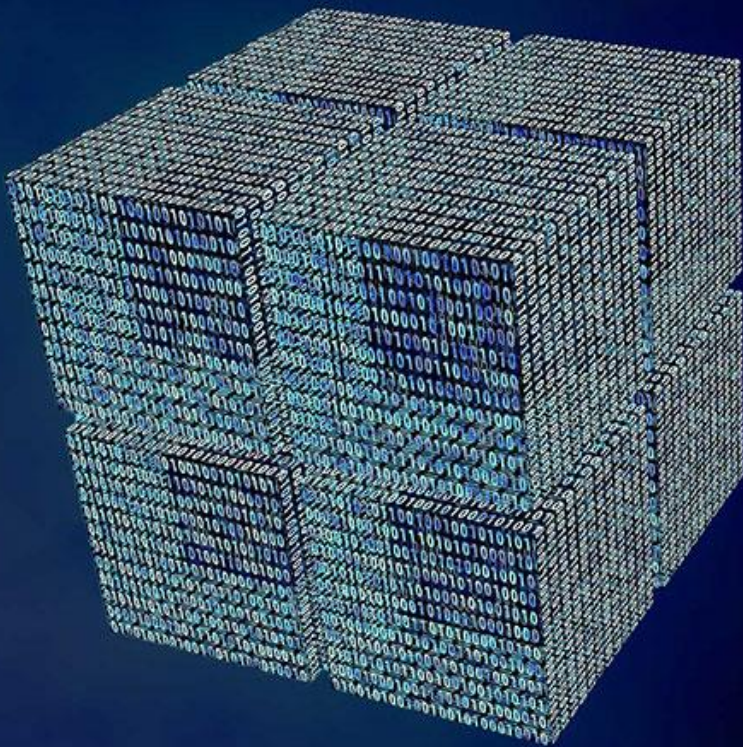
## 時間分配

專案時間表(甘特圖)

04

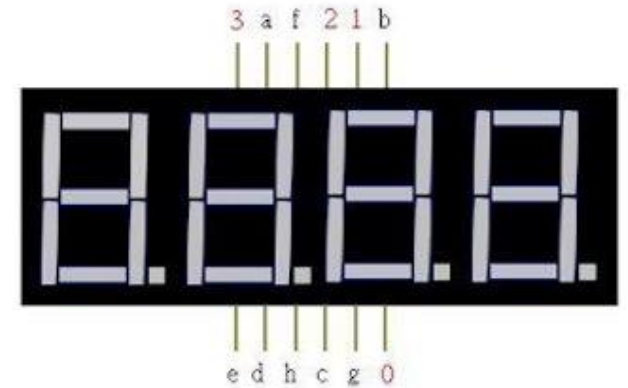
## 功能影片

影片展示

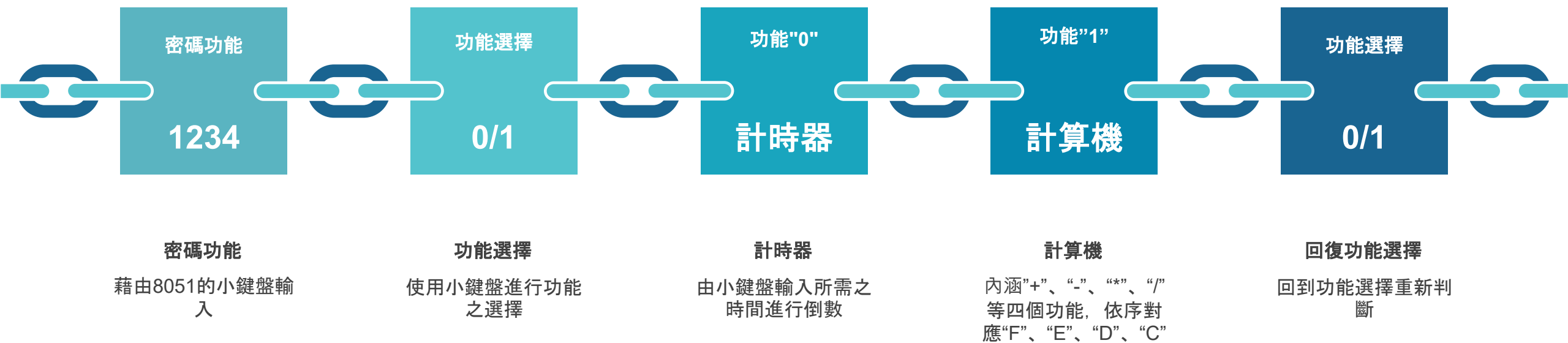




# 硬體結構



# 功能介紹



# 密碼、功能選擇

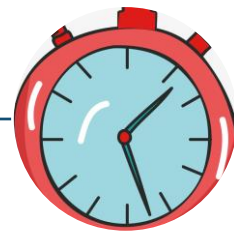
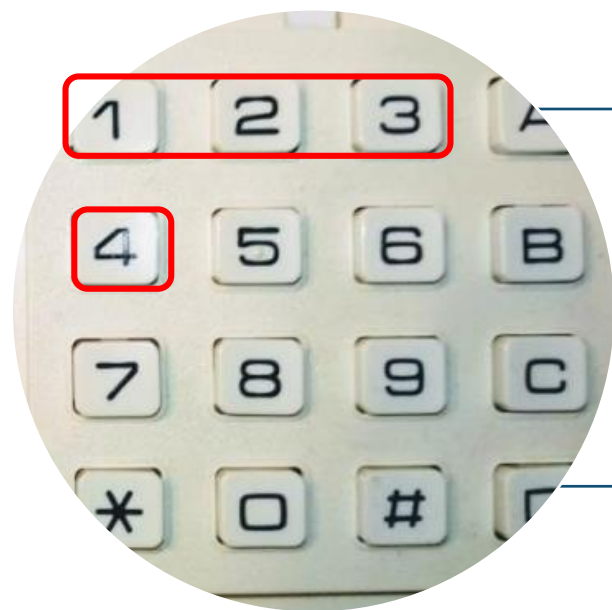
## 功能描述

```
void main(void) {
    while (1) {
        keyboard();
        display2Num();

        if (c == 1) {
            pass();
            for (hold = 0; hold < 100; hold++)
                display2Num();
        }
    }
}

jump:
```

```
void pass(void) {
    //if the codes ar
    if (N1 == 4 && N2 == 3 && N3 == 2 && N4 == 1) {
        N1 = S;
        N2 = S;
        N3 = v;
        N4 = f;
    }
}
```



計時器



計算器

jump:

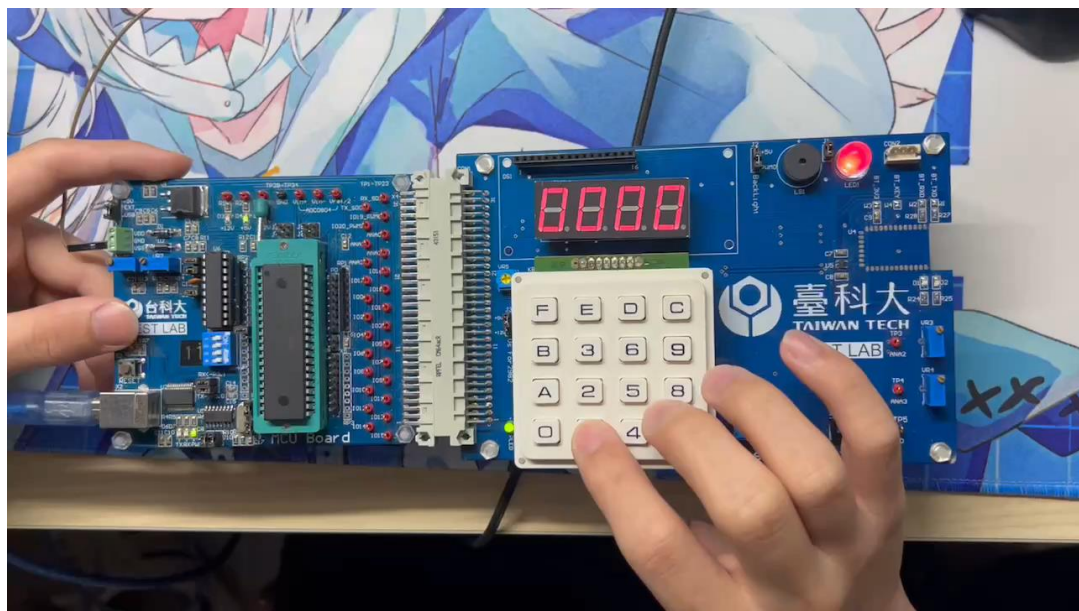
```
// Reset all digits to 0x00
N1 = 0x00;
N2 = 0x00;
N3 = 0x00;
N4 = 0x00;
```

```
while (1) {
    int key = read4x4();
    // Check for a new keypress
    if (key != -1) {
        // Check if keypress is not registered
        if (!keypress) {
```

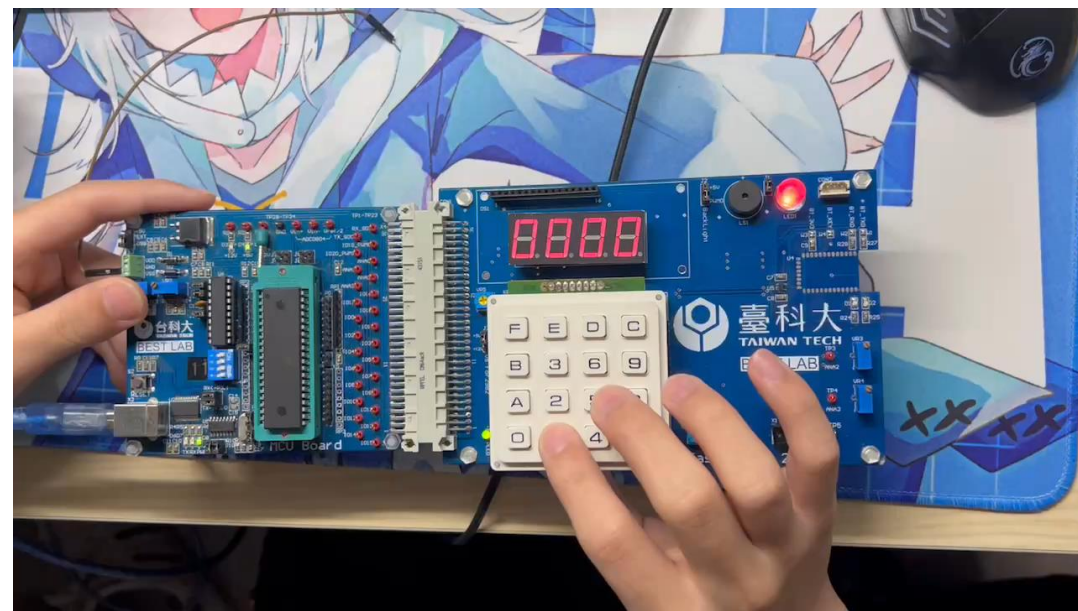
```
        while(1){
            N4 = decodekey[key];
            buffer1 = N4;
            display2Num();
            switch (buffer1) {
```

# 功能演示

密碼正確



密碼錯誤



# 計時器

## 功能“0” 計時器概述

藉由鍵盤的N4進行功能選擇，其中功能0為此功能，然後進入副程式(keyboard)輸入倒數時間後進入副程式(count down timer)進行倒數。

```
case 0:
    c = 0;
    //count = 0;
    while(1) {
        keyboard();
        display2Num();
        if(c == 1)
            count_down_timer();
        if(timecheck == 1) {
            N4 = 0x00;
            goto jump;
        }
        break;
    }
    break;
```

```
void count_down_timer(void) { //counter
    while(1) {

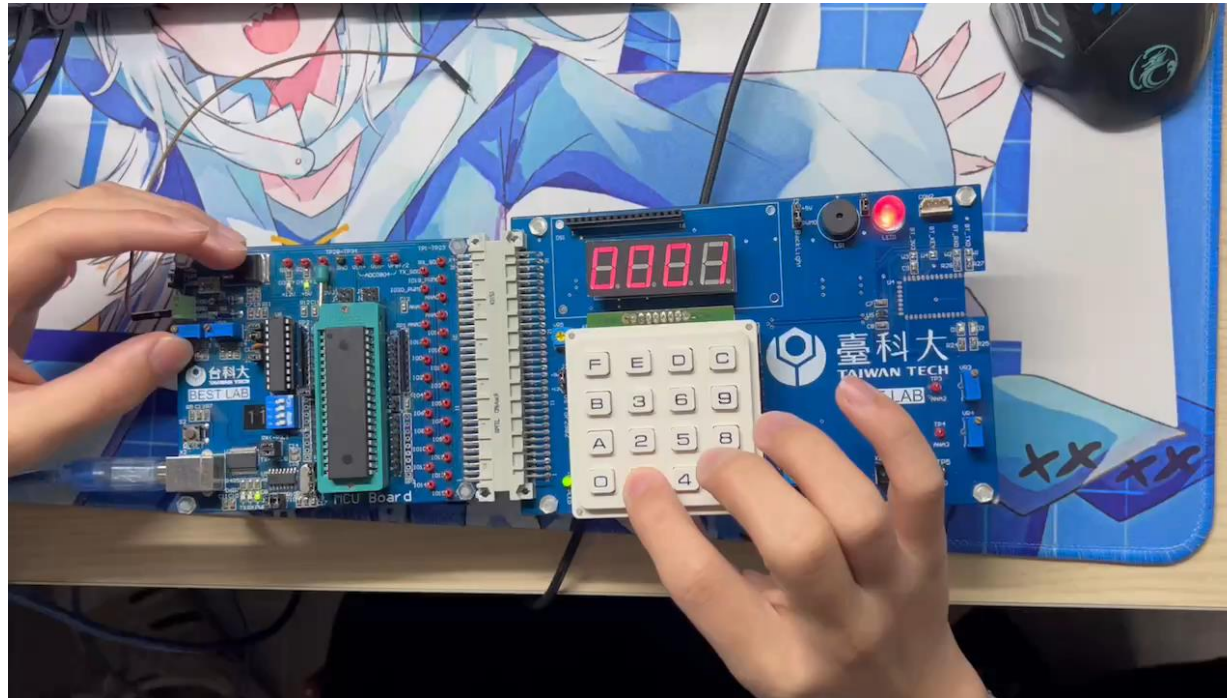
        if(N1 > 0) {
            while(N1 > 0) {
                N1--;
                Delay_ms(1);
                display2Num();
            }
        } else if(N2 > 0) {
            N2--;
            N1 = 9;
            display2Num();
        } else if(N3 > 0) {
            N3--;
            N2 = 9;
            N1 = 9;
            display2Num();
        } else if(N4 > 0) {
            N4--;
            N3 = 9;
            N2 = 9;
            N1 = 9;
            //display2Num();
        }

        Delay_ms(1);
        if(N1 == 0 && N2 == 0 && N3 == 0 && N4 == 0)
            timecheck += 1;
        break;
    }
}
```



# 功能演示

## 倒數功能





# 計算器

## 功能“1” 計算器概述

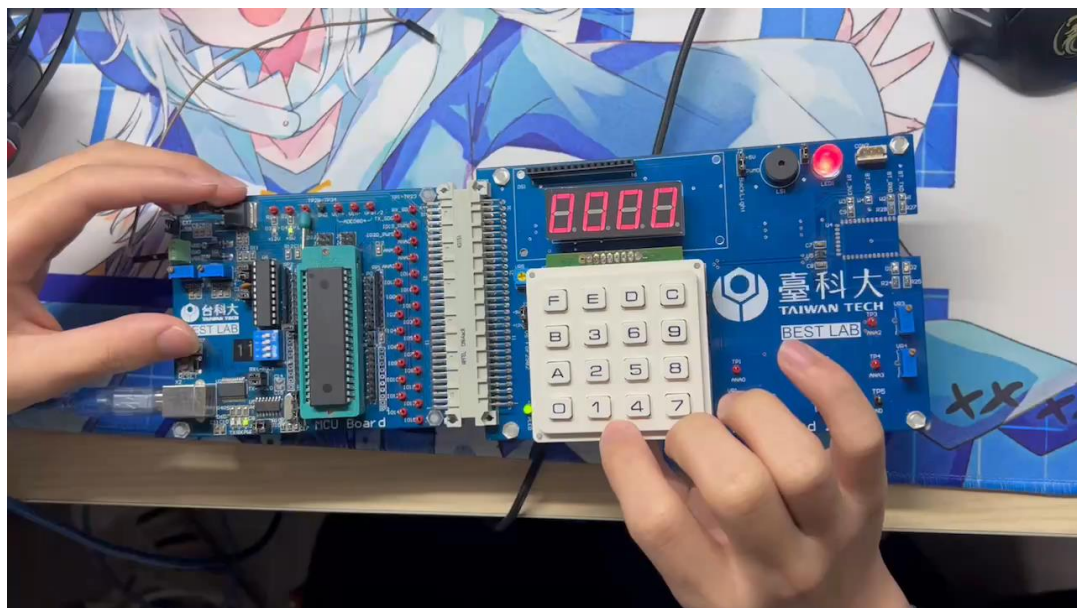
藉由鍵盤的N4進行功能選擇，其中功能1為此功能，然後進入副程式(multiplier)輸入兩次數字後再次使用N4進行判斷，其中“F”、“E”、“D”、“C”對應加減乘除計算後的(result)輸入至副程式(counter)即為答案。

```
case 1:
    N1 = 0x00;
    N2 = 0x00;
    N3 = 0x00;
    N4 = 0x00;
    while (1) {
        multiplier();
        if(calculate_check == 1)
            N4 = 0x00;
        display2Num();
        goto jump;
    }
    break;
}
break;
case 2:
```

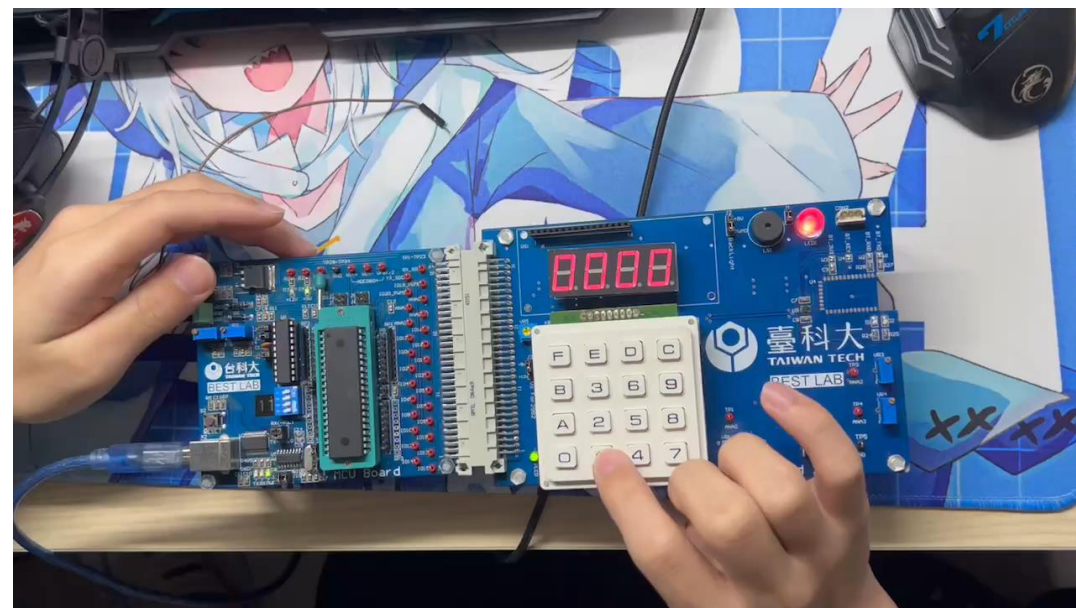
```
break;
}
N1=N2=N3=N4=0; //Prompt
display2Num();
while(1){ //this
    c = 0;
    keyboard();
    b = N1+N2*10+N3*100+N4*1000;
    display2Num();
    operand2 = b;
    if(b/1000 != 0)
        break;
}
N1=N2=N3=N4=0; //Prompt
display2Num();
while (1) { //to de
    int key = read4x4();
    if (key != -1) {
        // Check if keypress is not registered
        if (!keypress) {
            //count = c = 0;
            N4 = decodekey[key];
            casechase = N4;
            //display2Num();
            switch (casechase) {
                case 15://+
                    result = operand1 + operand2;
                    counter();
                    break;
                case 14://-
```

# 功能演示

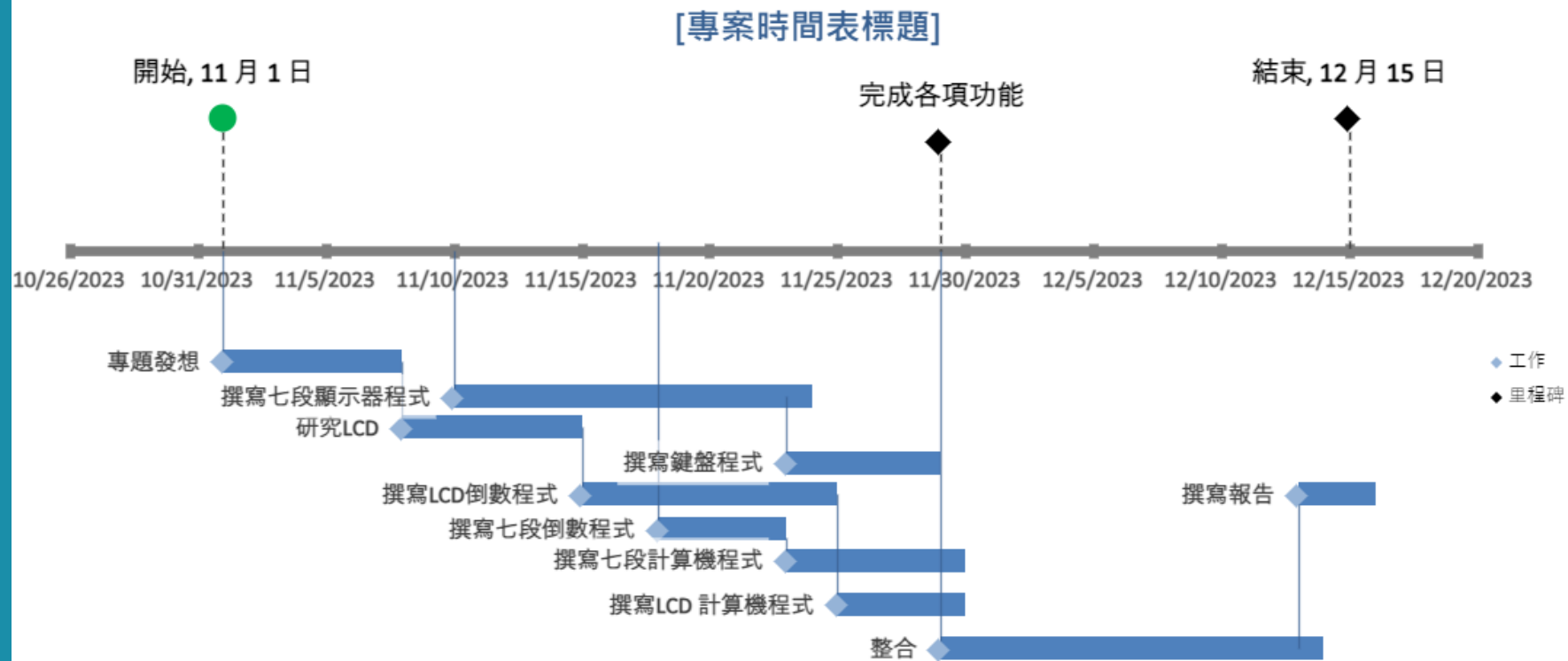
加法



除法



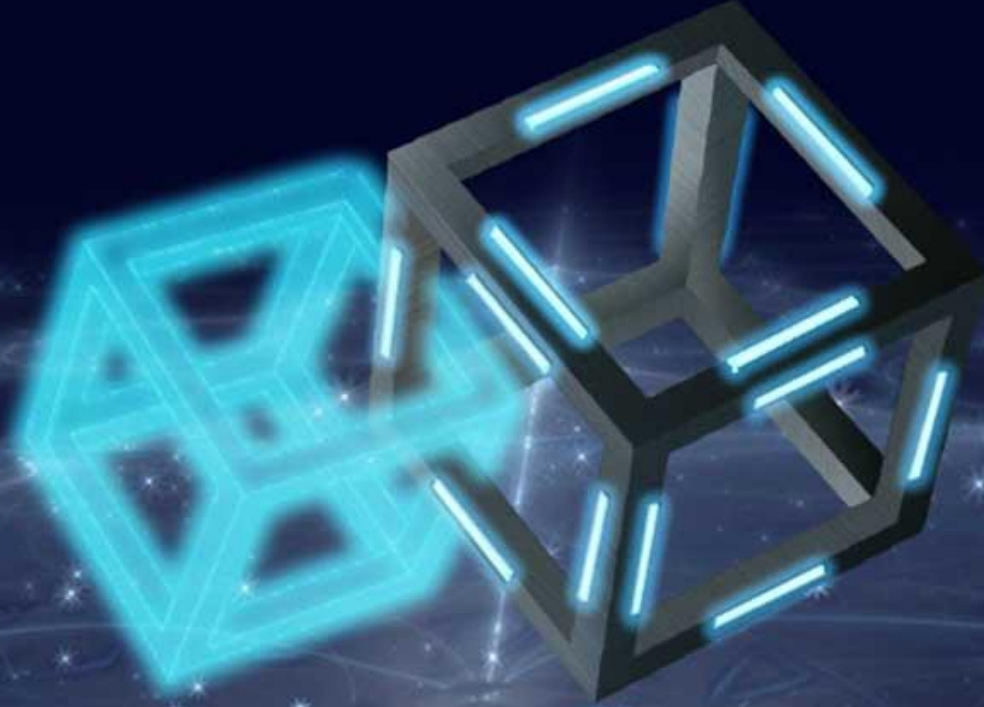
# 甘特圖



# 工作分配

	項目
何景澤	專題發想、撰寫七段顯示器程式、撰寫鍵盤程式、整合、撰寫報告、撰寫七段倒數程式、撰寫七段計算機程式
李家睿	專題發想、研究LCD、撰寫LCD倒數程式、撰寫LCD 計算機程式、整合、撰寫報告





THANK YOU