

## 電通二乙微處理器實驗 實驗結報

實驗名稱	Lab01_startup		
組別	12	組員	郭凡智

### 1. 實驗目的

使用 tinkercad 模擬 arduino UNO 電路及程式

### 2. 實驗步驟

填寫分組表單

啟動 arduino IDE 載入 blink 程式碼

註冊 tinkercad 帳號 啟動 adruino 模擬器

接電路

修改程式 LED 輸出成 pin9 並觀察閃爍間隔

接著使閃爍間格分別增加 2 倍及 0.5 倍 重新觀測並截圖

畫出電路圖

### 3. 程

式

碼

```
1 // the setup function runs once when you press reset or power the l
2 void setup() {
3   // initialize digital pin LED_BUILTIN as an output.
4   pinMode(9, OUTPUT);
5 }
6
7 // the loop function runs over and over again forever
8 void loop() {
9   digitalWrite(9, HIGH);    // turn the LED on (HIGH is the voltage
10  delay(1000);               // wait for a second
11  digitalWrite(9, LOW);     // turn the LED off by making the volta
12  delay(1000);               // wait for a second
13 }
```

```
// the setup function runs once when you press reset or power the k
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is the
  delay(1000); // wait for a second
  digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making
  delay(1000); // wait for a second
}
```

```
// the setup function runs once when you press reset or power the k
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is the
  delay(500); // wait for a second
  digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making
  delay(500); // wait for a second
}
```

```
// the setup function runs once when you press reset or power the
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH); // turn the LED on (HIGH is t
  delay(2000); // wait for a second
  digitalWrite(LED_BUILTIN, LOW); // turn the LED off by making
  delay(2000); // wait for a second
}
```

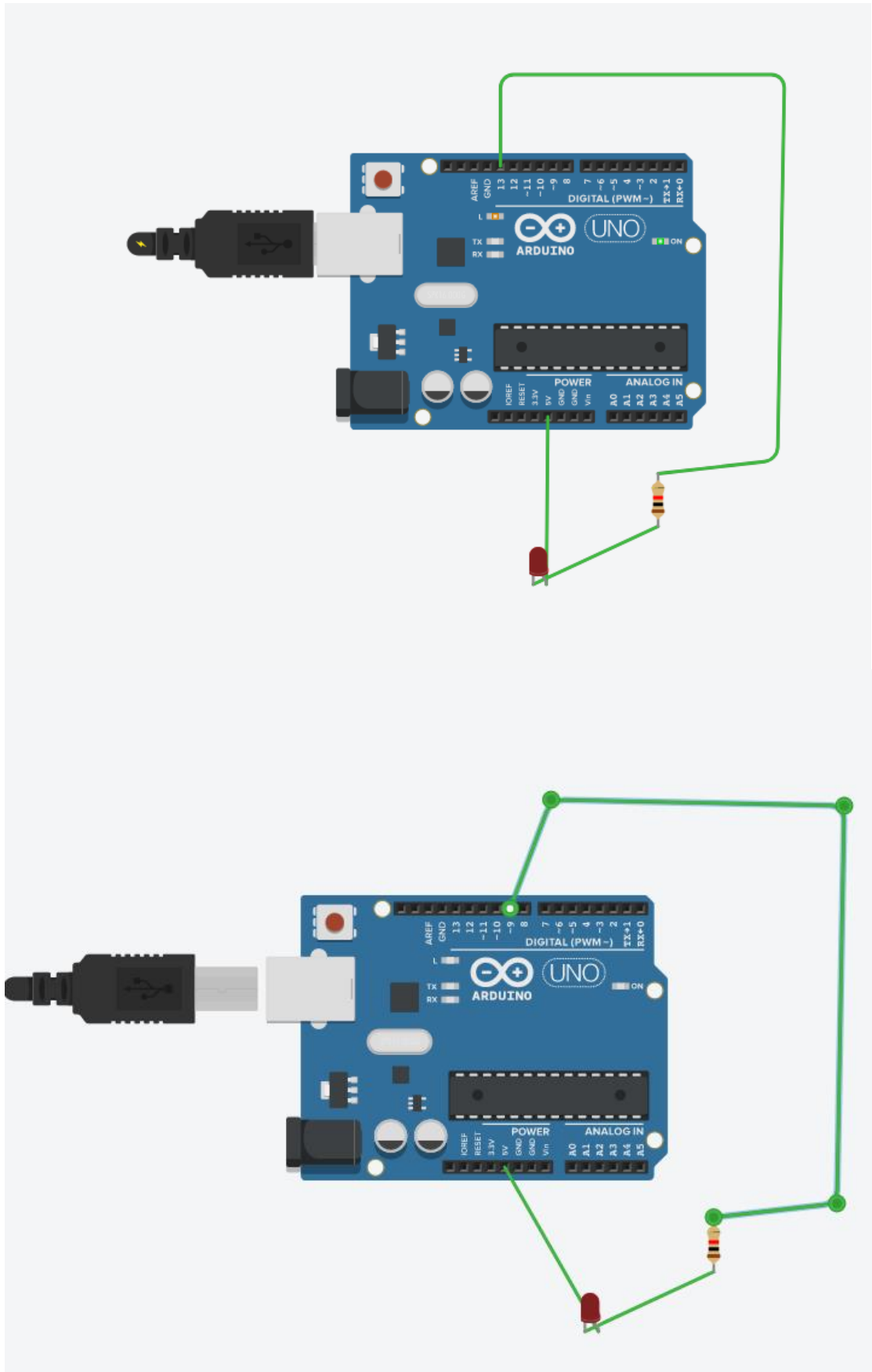
#### 4. 實驗結果及分析

成功模擬出 LED 閃爍情形,將延遲調成 2000 後閃爍情形比原先慢  
調成 500 後先快

#### 5. 心得討論

會使用 tinkercad 的 arduino 模擬器及 github

## 6. 修正電路圖



## 7. 修正程式碼