實驗名稱			
組別		組員	

1. 實驗目的
   使用 Tinkercad 模擬 Arduino UNO 電路及程式
   繪製電路圖
   觀察 Arduino UNO 之輸出
   學習將程式碼及實驗報告上傳至 Github

2. 實驗步驟
   註冊 Tinkercad 帳號啟動 Arduino 的模擬器
   接上 LED 電路
   修改程式，將 LED 輸出改為 Pin9
   觀察 LED 之閃爍間隔
   修改程式，使 LED 閃爍間隔分別增加為 2 倍及 1/2 倍，重新量測並截圖
   畫出電路圖
3. 程式碼

```
void setup()
{
  pinMode(9, OUTPUT);
}

void loop()
{

  digitalWrite(9, HIGH);
  delay(100); // Wait for 1000 millisecond(s)
  digitalWrite(9, LOW);
  delay(100); // Wait for 1000 millisecond(s)
}

void setup()
{
  pinMode(9, OUTPUT);
}

void loop()
{

  digitalWrite(9, HIGH);
  delay(200); // Wait for 1000 millisecond(s)
```

```
        digitalWrite(9, LOW);
        delay(200); // Wait for 1000 millisecond(s)
    }
      void setup()
      {
      pinMode(9, OUTPUT);
      }

      void loop()
      {

      digitalWrite(9, HIGH);
      delay(50); // Wait for 1000 millisecond(s)
      digitalWrite(9, LOW);
      delay(50); // Wait for 1000 millisecond(s)
    }
etup()
{
 pinMode(9, OUTPUT);
}

void loop()
{
 for(int j=1;j<=3;j++)
 {
  digitalWrite(9, HIGH);
  delay(100); // Wait for 1000 millisecond(s)
  digitalWrite(9, LOW);
  delay(100); // Wait for 1000 millisecond(s)
 }
  digitalWrite(9, LOW);
  delay(100); // Wait for 1000 millisecond(s)

  for(int j=1;j<=3;j++)
{
 digitalWrite(9, HIGH);
 delay(300); // Wait for 1000 millisecond(s)
 digitalWrite(9, LOW);
 delay(100); // Wait for 1000 millisecond(s)
}
 digitalWrite(9, LOW);
 delay(100); // Wait for 1000 millisecond(s)

 for(int j=1;j<=3;j++)
```

```
{
digitalWrite(9, HIGH);
delay(100); // Wait for 1000 millisecond(s)
digitalWrite(9, LOW);
delay(100); // Wait for 1000 millisecond(s)
}

digitalWrite(9, HIGH);
delay(300); // Wait for 1000 millisecond(s)



}
```

4. 實驗結果及分析

燈泡成功一閃一閃的

5. 心得討論

這次實驗讓我稍為熟悉 Tinkercad 的模擬器，稍微了解如何修改程式碼，和如何使用,希望下次課程能更加順利。

6. 修正程式碼

7. void setup()
8. {
9.   pinMode(9, OUTPUT);
10. }
11.
12. void loop()
13. {
14.
15.   digitalWrite(9, HIGH);
16.   delay(100); // Wait for 1000 millisecond(s)
17.   digitalWrite(9, LOW);
18.   delay(100); // Wait for 1000 millisecond(s)
19.   }
20.
21. void setup()
22. {
23.   pinMode(9, OUTPUT);
24. }
25.
26. void loop()
27. {
28.
29.   digitalWrite(9, HIGH);
30.   delay(200); // Wait for 1000 millisecond(s)
31.   digitalWrite(9, LOW);
32.   delay(200); // Wait for 1000 millisecond(s)
33.   }
34. void setup()
35. {
36.   pinMode(9, OUTPUT);
37. }
38.
39. void loop()
40. {
41.
42.   digitalWrite(9, HIGH);
43.   delay(50); // Wait for 1000 millisecond(s)
44.   digitalWrite(9, LOW);
45.   delay(50); // Wait for 1000 millisecond(s)
46.   }
47. etup()

```
48. {
49.   pinMode(9, OUTPUT);
50. }
51.
52. void loop()
53. {
54.   for(int j=1;j<=3;j++)
55.   {
56.   digitalWrite(9, HIGH);
57.   delay(100); // Wait for 1000 millisecond(s)
58.   digitalWrite(9, LOW);
59.   delay(100); // Wait for 1000 millisecond(s)
60.   }
61.   digitalWrite(9, LOW);
62.   delay(100); // Wait for 1000 millisecond(s)
63.
64.   for(int j=1;j<=3;j++)
65.   {
66.   digitalWrite(9, HIGH);
67.   delay(300); // Wait for 1000 millisecond(s)
68.   digitalWrite(9, LOW);
69.   delay(100); // Wait for 1000 millisecond(s)
70.   }
71.   digitalWrite(9, LOW);
72.   delay(100); // Wait for 1000 millisecond(s)
73.
74.   for(int j=1;j<=3;j++)
75.   {
76.   digitalWrite(9, HIGH);
77.   delay(100); // Wait for 1000 millisecond(s)
78.   digitalWrite(9, LOW);
79.   delay(100); // Wait for 1000 millisecond(s)
80.   }
81.
82.   digitalWrite(9, HIGH);
83.   delay(300); // Wait for 1000 millisecond(s)
84.
85.
86.
87. }
```