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Title: 計算機網路 Socket Programming Project

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主題:

多人聊天室

功能:

Socket(TCP), GUI(tkinter), muliti-thread(threading), 月曆查詢

程式語言:

Python

作業系統環境:

Windows 11

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操作:

打開 server.exe 輸入 IP 以及 Port

```
IP: 192.168.1.142
PORT(1000~65535): 1000
Server IP and Port: 192.168.1.142 @1000
Waiting for Connection...
|
```

打開 client.exe 輸入 IP 以及 Port

```
IP: 192.168.1.142
PORT(1000~65535): 1000
|
```

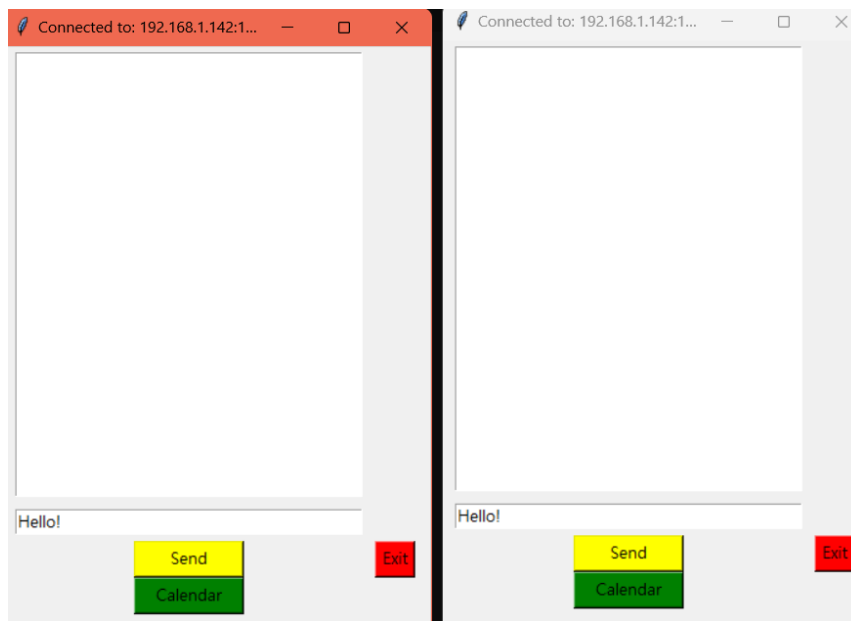
```
IP: 192.168.1.142
PORT(1000~65535): 1000
|
```

(在此示範開兩個 client.exe)

連接上後，會看到 server 如下:

```
IP: 192.168.1.142
PORT(1000~65535): 1000
Server IP and Port: 192.168.1.142 @1000
Waiting for Connection...
Connected by: 192.168.1.142:51037
Connected by: 192.168.1.142:51061
|
```

Client 如下:



1. Clients 發消息(輸入後，按下 Send):

Server 如下:

```
IP: 192.168.1.142
PORT(1000~65535): 1000
Server IP and Port: 192.168.1.142 @1000
Waiting for Connection...
Connected by: 192.168.1.142:51037
Connected by: 192.168.1.142:51061
*192.168.1.142*@51037: 你好 Hello!!
*192.168.1.142*@51061: 何時有空??
```

Clients 如下:



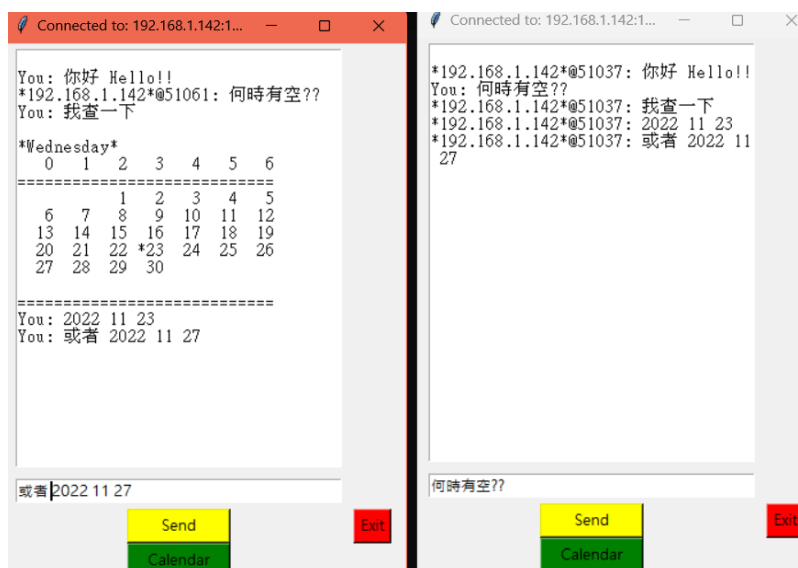
## 2. Client1 查日期:

輸入 2022 11 23 後按下 Calendar

Client1 如下:

```
*Wednesday*
 0  1  2  3  4  5  6
=====
      1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 *23 24 25 26
27 28 29 30
=====
```

再按下 Send



此時 server 如下:

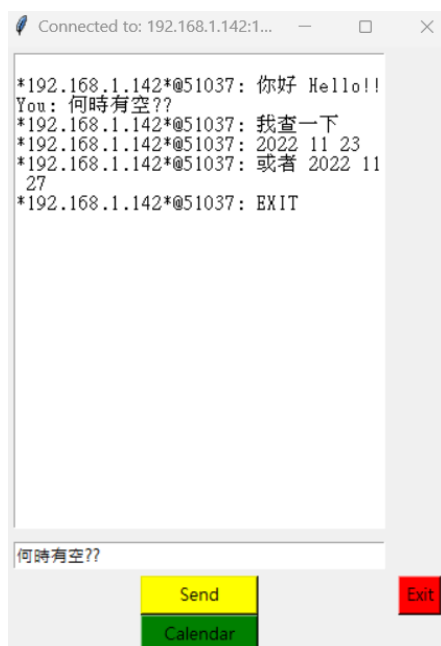
```
IP: 192.168.1.142
PORT(1000~65535): 1000
Server IP and Port: 192.168.1.142 @1000
Waiting for Connection...
Connected by: 192.168.1.142:51037
Connected by: 192.168.1.142:51061
*192.168.1.142*@51037: 你好 Hello!!
*192.168.1.142*@51061: 何時有空??
*192.168.1.142*@51037: 我查一下
*192.168.1.142*@51037: 2022 11 23
*192.168.1.142*@51037: 或者 2022 11 27
```

### 3. Client2 離開(按下 Exit 按鈕):

Server 如下:

```
IP: 192.168.1.142
PORT(1000~65535): 1000
Server IP and Port: 192.168.1.142 @1000
Waiting for Connection...
Connected by: 192.168.1.142:51037
Connected by: 192.168.1.142:51061
*192.168.1.142*@51037: 你好 Hello!!
*192.168.1.142*@51061: 何時有空??
*192.168.1.142*@51037: 我查一下
*192.168.1.142*@51037: 2022 11 23
*192.168.1.142*@51037: 或者 2022 11 27
*192.168.1.142*@51037: EXIT
*192.168.1.142*@51037 disconnected!!
```

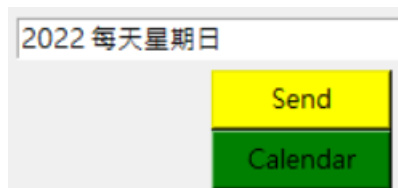
Client1 消失，Client2 如下:



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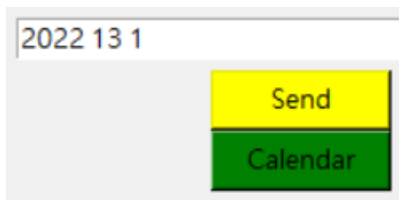
保護措施:

#### 1. 日期亂輸入(非數字):



Error Date

## 2. 日期亂輸入(數字不合理):



A screenshot of a web form. At the top, there is a text input field containing the date "2022 13 1". Below the input field, there are two buttons: a yellow button labeled "Send" and a green button labeled "Calendar".

```
** Wrong Date **  
*Sunday*  
  0  1  2  3  4  5  6  
=====
```

*1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

```
=====
```

## 3. Port 保護:

```
IP: 192.168.1.142  
PORT(1000~65535): -1  
Choose another PORT(1000~65535): 80  
Choose another PORT(1000~65535): 999999999  
Choose another PORT(1000~65535): |
```