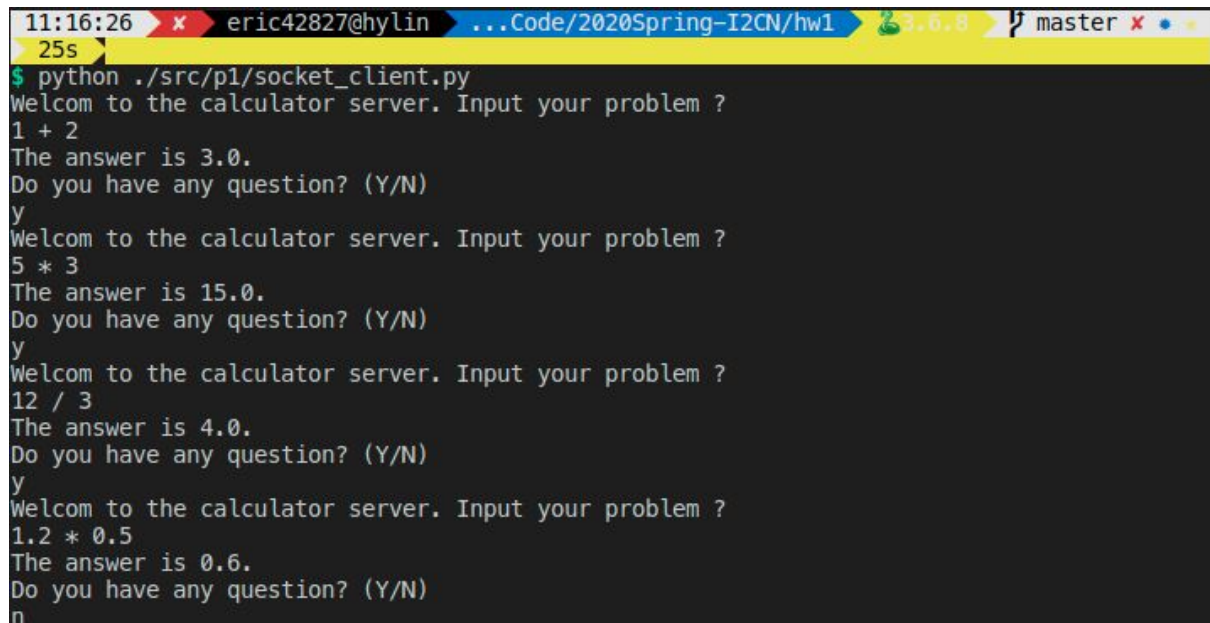


1.

第一題主要是利用TCP實作一個計算機, 透過client傳入數值以及四則運算符號, server 運算完後再次傳回client端, 以下是Terminal執行的情況 :

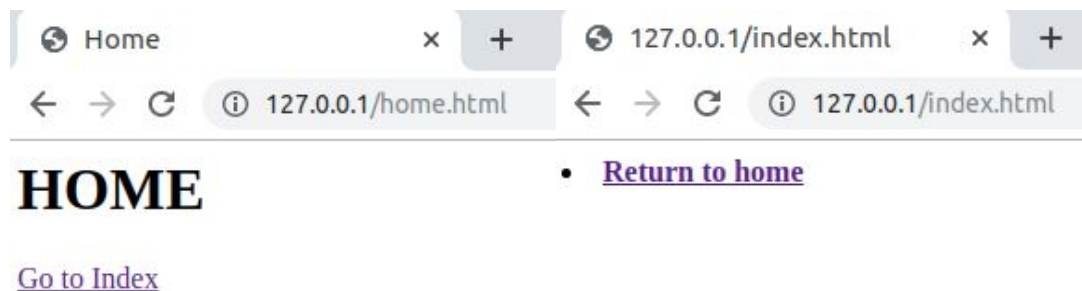


```
11:16:26 x eric42827@hylin ...Code/2020Spring-I2CN/hw1 3.6.8 master x
25s
$ python ./src/p1/socket_client.py
Welcom to the calculator server. Input your problem ?
1 + 2
The answer is 3.0.
Do you have any question? (Y/N)
y
Welcom to the calculator server. Input your problem ?
5 * 3
The answer is 15.0.
Do you have any question? (Y/N)
y
Welcom to the calculator server. Input your problem ?
12 / 3
The answer is 4.0.
Do you have any question? (Y/N)
y
Welcom to the calculator server. Input your problem ?
1.2 * 0.5
The answer is 0.6.
Do you have any question? (Y/N)
n
```

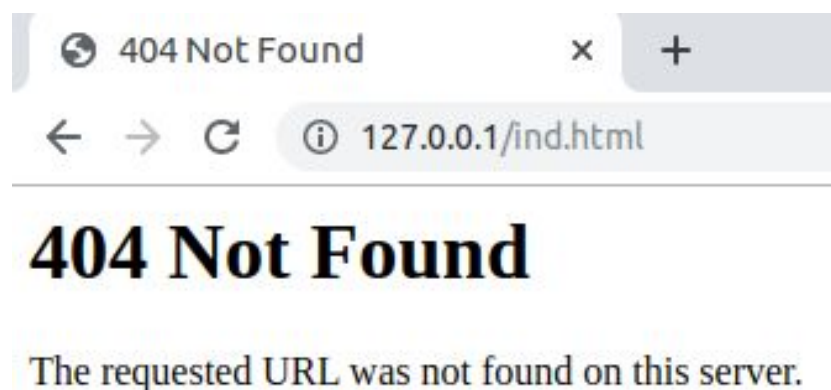
值得注意的是為了讓小數也可以做四則運算, 因此我把型態都轉為浮點數了

2\_a

2\_a是建立一個web server, 利用瀏覽器直接存取server上的html並回傳給瀏覽器, html 裡面包含了一個超連結, 能夠透過超連結來到web server上的其他html, 以下是我的執行情況以及瀏覽器截圖 :



當html不存在時 :



Terminal執行情況（印出request filename & response message）：

```
01:32:19 x eric42827@hylin ...hw1/src/p2_a 3.6.8 master x 42s
$ sudo python web_server.py
Ready to serve...
Filename: /home.html
HTTP/1.1 200 OK
Content-Type: text/html

<html>
  <head><title>Home</title></head>
  <body>
    <h1>HOME</h1>
    <a href="index.html">Go to Index</a>
  </body>
</html>

Ready to serve...
Filename: /index.html
HTTP/1.1 200 OK
Content-Type: text/html

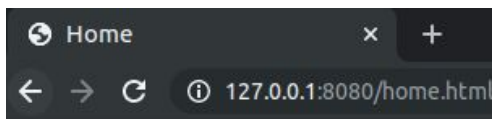
<html>
  <body>
    <li>
      <a href="home.html"><strong>Return to home</strong></a>
    </li>
  </body>
</html>

Ready to serve...
Filename: /ind.html
HTTP/1.1 404 Not Found
Content-Type: text/html

<html><head><title>404 Not Found</title></head><body bgcolor=white><h1>404 Not Found</h1><p>The requested URL was not found on this server.</p></body></html>
```

2\_b

這題是實做一個proxy server, 透過將html從ordinary server存取在proxy server當中, 之後每當再次存取時就可以直接從proxy server上request, 以下是我的執行情況以及瀏覽器截圖：(當第一次存取時會回傳status code, 第二次後會印出"Read from cache")



```
00:16:33 x eric42827@hylin ...hw1/src/p2_b 3.6.8 master x
$ python proxy_server.py 127.0.0.1
Ready to serve...
Received a connection from: ('127.0.0.1', 34084)
Filename: home.html
'HTTP/1.1 200 OK'

Ready to serve...
Received a connection from: ('127.0.0.1', 34156)
Filename: index.html
'HTTP/1.1 200 OK'

Ready to serve...
Received a connection from: ('127.0.0.1', 34178)
Filename: home.html
Read from cache

Ready to serve...
Received a connection from: ('127.0.0.1', 34196)
Filename: index.html
Read from cache

Ready to serve...
Received a connection from: ('127.0.0.1', 34238)
Filename: iex.html
'HTTP/1.1 404 Not Found'
```