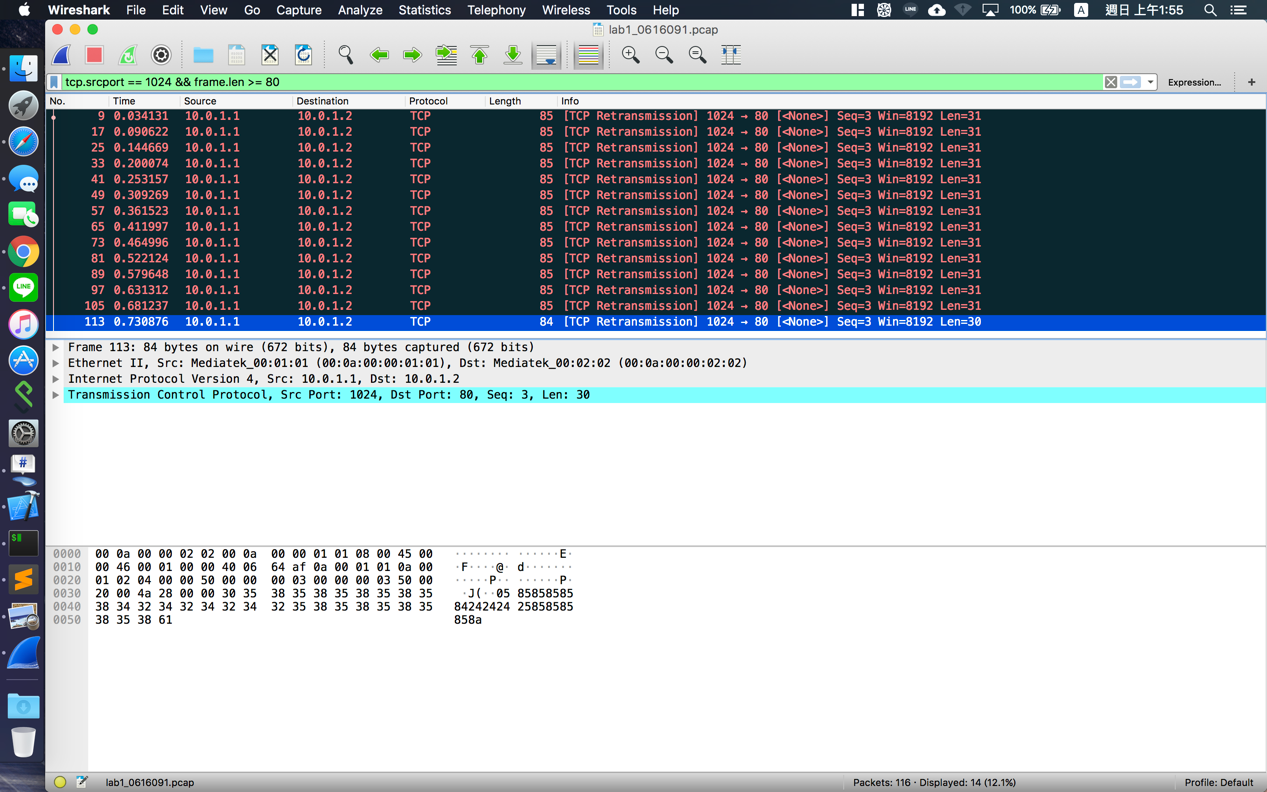
Student name: 陳昱螢Student ID: 0616091 Department: CS

Part A. Questions

1. What is your command to filter the packet with customized header on Wireshark?

Ans: Use “tcp.srcport == 1024 && frame.len >= 80“ to filter the packet.

2. Show the screenshot of filtering the packet with customized header.

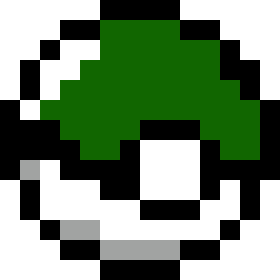


3. What is your command to filter the packet with “secret” payload on Wireshark?

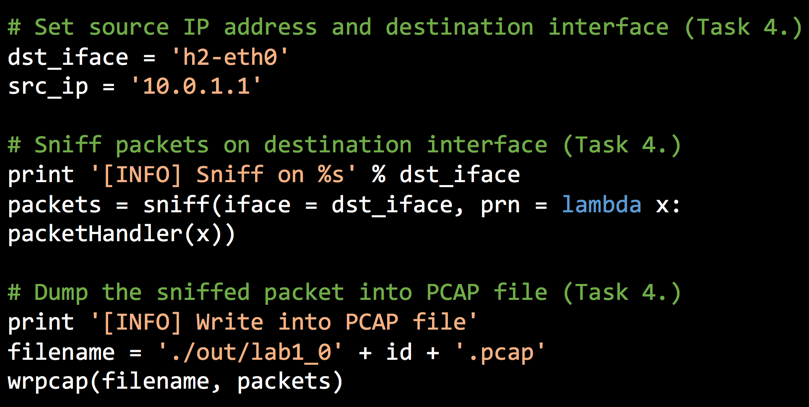
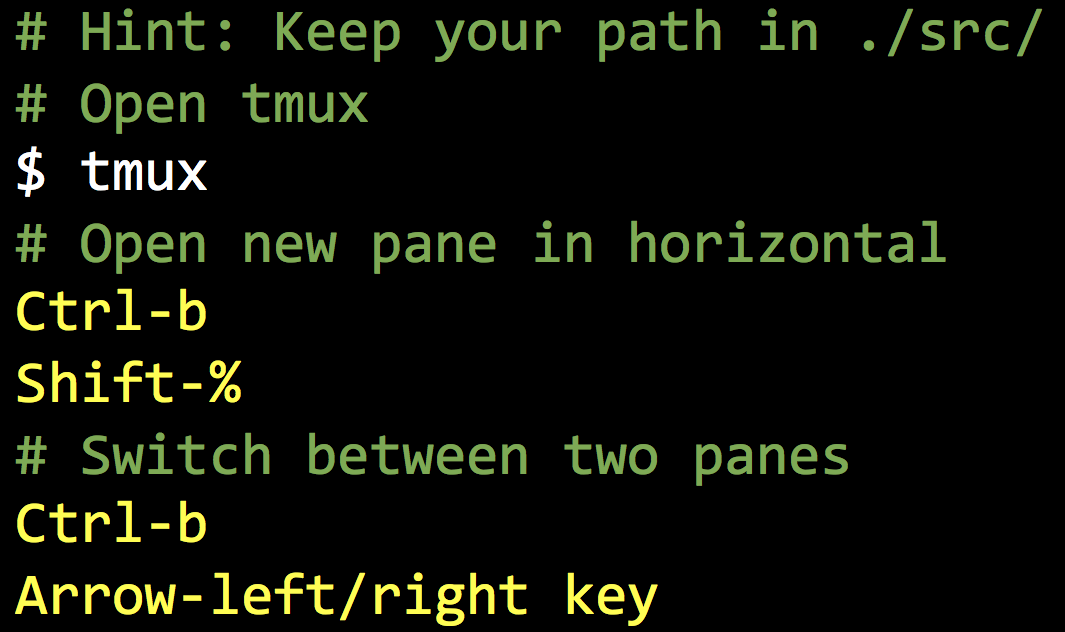
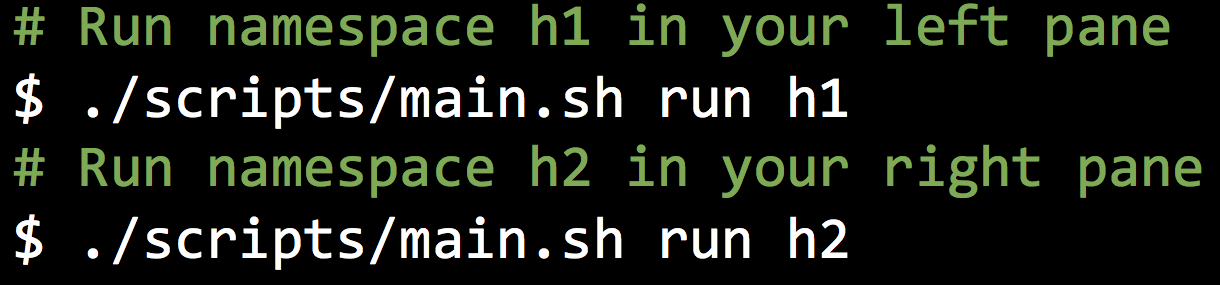
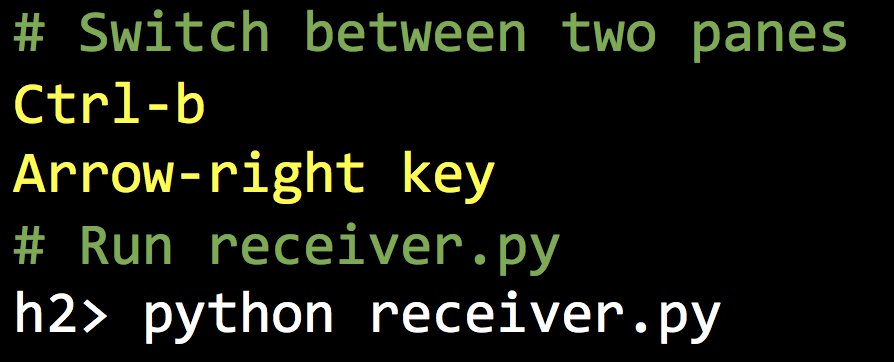
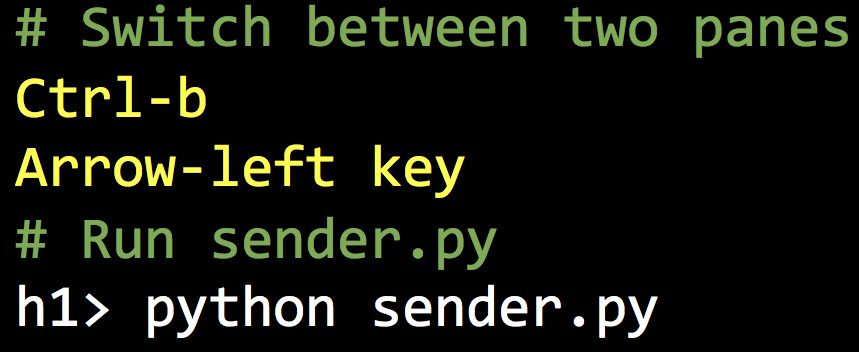
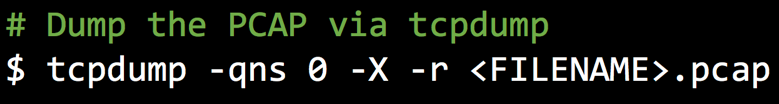
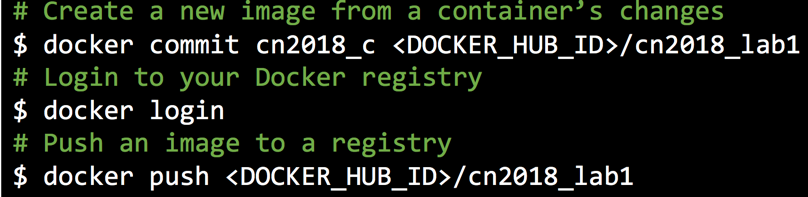
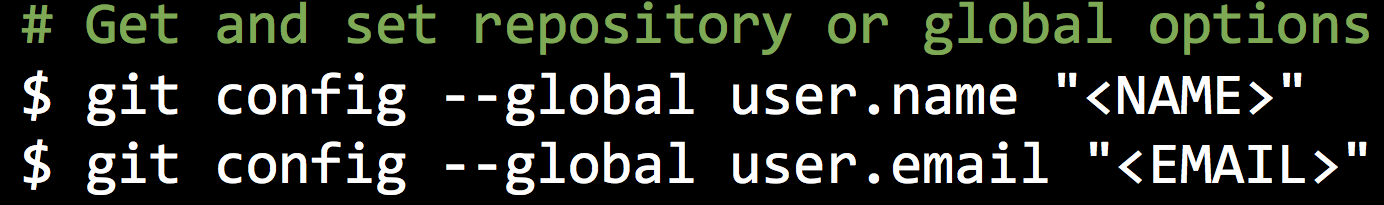
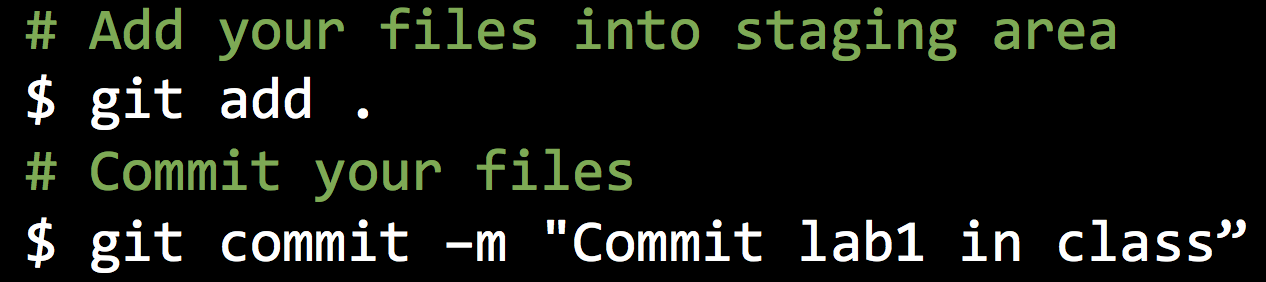
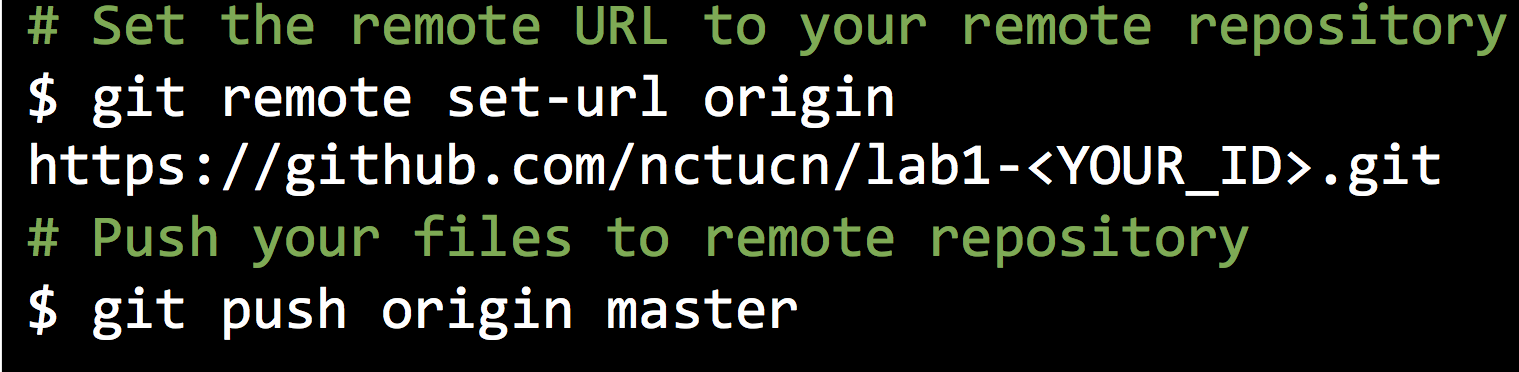
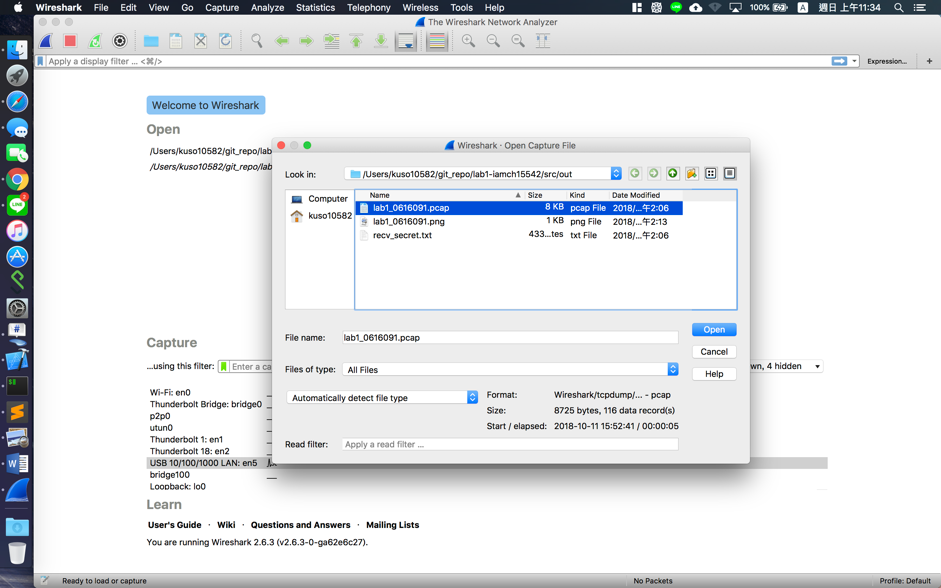
Ans:

4. Show the screenshot of filtering the packet with “secret” payload .

5. Show the result after decoding the “secret” payload.

Ans:

Part B. Description

* Task 1 – Environment setup
* Task 2 – Define protocol via Scapy
* Task 3 – Send packets
* Task 4 – Sniff packets
  1. Receive and sniff packets
* 在receiver.py裡新增下列的code，前面兩行是先設置來源的ip位置跟目的地。再來則是在目的地的介面print”Sniff on 目的地”，最後先print出”write into PCAP file”後，便將所截取得到資訊寫入pcap檔案。
* Task 5 – Run sender and receiver
  1. Open tmux with horizontal two panes
* 在終端機使用tmux，再用下列的按鍵，將視窗分割成兩個視窗。
  1. Switch into two namespaces
* 將左邊的視窗開啟名為h1的namespace，再右邊的視窗開啟名為h2的namespace。
  1. Run receiver.py first
* 上面是切換左右視窗的指令。再來是先在h2開啟receiver.py，這樣才不會遺漏訊息。
  1. Run sender.py
* 上面是切換左右視窗的指令。再來是在h1開啟sender.py，開始傳遞訊息。
  1. Use tcpdump to show your PCAP file
* 使用tcpdump來解讀pcap的檔案，-r的意思是從指定的文件讀取數據包數據。
* Task 6 – Push your files to remote
  1. Push your image to Docker Hub
* docker commit 是根據你container的change創造新的image，而docker login 是在終端機登入你的docker帳號，docker push則是將你的image傳到Docker Hub
  1. Push your files to GitHub
* 設定git所需要的名稱及信箱。
* add是將資料夾裡的檔案讓git追蹤，commit 則是將暫存區的檔案存檔，後面的-m “Commit lab1 in class”，則是說明你在這次commit 做了什麼事。
* git remote set-url origin 是拿來設定遠端伺服器的網址，而git push origin master則是把master這個分支的內容推向origin的位置，若origin的遠端server並沒有master這個分支的話，便會建立一個叫做master的分支。
* Task 7 – Load PCAP via Wireshark
  1. Download your code from GitHub
* 在終端機輸入git clone <https://iamch15542@github.com/nctucn/lab1-iamch15542.git/>
  1. Install Wireshark 2.6.3
* 因為我是使用macos，所以我是到<https://www.wireshark.org/download.html>他的官網下載
  1. Open the PCAP file using Wireshark
* 直接選取資料夾裡面的pcap檔案就可以了
* 
* Task 8 – Filter the target packets
* Task 9 – Decode the secret key
  1. Input the secret key into ./src/decoder.py
* 在終端機執行decoder.py
* 輸入 python decoder.py 19061601906160
  1. Will have output in ./src/out/lab1\_0616091.png
* 圖片結果為