Task 1

1. My devices IP address is 172.23.34.189 and it is on every row.
2. 30 packets were captured in total
3. There are 4 UDP packets out of 30 with and 24 TCP packets out of the 30 packets

Task 2

4. The IP address of the http link requested is 128.119.245.12
5.

```
No.     Time           Source                Destination           Protocol Length Info
     99 5.831219       172.30.98.20          128.119.245.12        HTTP     512    GET / HTTP/1.1
Frame 99: 512 bytes on wire (4096 bits), 512 bytes captured (4096 bits) on interface \Device\NPF_{4F08C3A4-9865-4576-918D-56F46B057294},
id 0
Ethernet II, Src: LiteonTe_5a:26:4d (94:08:53:5a:26:4d), Dst: QLogic_e2:c0:b4 (f4:e9:d4:e2:c0:b4)
Internet Protocol Version 4, Src: 172.30.98.20, Dst: 128.119.245.12
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 498
    Identification: 0xc761 (51041)
    Flags: 0x40, Don't fragment
    Fragment Offset: 0
    Time to Live: 128
    Protocol: TCP (6)
    Header Checksum: 0xaded [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 172.30.98.20
    Destination Address: 128.119.245.12
Transmission Control Protocol, Src Port: 64752, Dst Port: 80, Seq: 1, Ack: 1, Len: 458
    Source Port: 64752
    Destination Port: 80
    [Stream index: 4]
    [TCP Segment Len: 458]
    Sequence Number: 1    (relative sequence number)
    Sequence Number (raw): 1040240822
    [Next Sequence Number: 459    (relative sequence number)]
    Acknowledgment Number: 1    (relative ack number)
    Acknowledgment number (raw): 3128740868
    0101 .... = Header Length: 20 bytes (5)
    Flags: 0x018 (PSH, ACK)
    Window: 514
    [Calculated window size: 131584]
    [Window size scaling factor: 256]
    Checksum: 0xfca3 [unverified]
    [Checksum Status: Unverified]
    Urgent Pointer: 0
    [SEQ/ACK analysis]
    [Timestamps]
    TCP payload (458 bytes)
Hypertext Transfer Protocol
```

Figure 1_module_1_task_2_Step_5 GET message

```
No.     Time           Source                Destination           Protocol Length Info
    120 5.880318       128.119.245.12        172.30.98.20          HTTP     293    HTTP/1.1 200 OK  (text/html)
Frame 120: 293 bytes on wire (2344 bits), 293 bytes captured (2344 bits) on interface \Device\NPF_{4F08C3A4-9865-4576-918D-56F46B057294}, id
0
Ethernet II, Src: QLogic_e2:c0:b4 (f4:e9:d4:e2:c0:b4), Dst: LiteonTe_5a:26:4d (94:08:53:5a:26:4d)
Internet Protocol Version 4, Src: 128.119.245.12, Dst: 172.30.98.20
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
    Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 279
    Identification: 0xb264 (45668)
    Flags: 0x40, Don't fragment
    Fragment Offset: 0
    Time to Live: 40
    Protocol: TCP (6)
    Header Checksum: 0x1bc6 [validation disabled]
    [Header checksum status: Unverified]
    Source Address: 128.119.245.12
    Destination Address: 172.30.98.20
Transmission Control Protocol, Src Port: 80, Dst Port: 64752, Seq: 2773, Ack: 459, Len: 239
    Source Port: 80
    Destination Port: 64752
    [Stream index: 4]
    [TCP Segment Len: 239]
    Sequence Number: 2773    (relative sequence number)
    Sequence Number (raw): 3128743640
    [Next Sequence Number: 3012    (relative sequence number)]
    Acknowledgment Number: 459    (relative ack number)
    Acknowledgment number (raw): 1040241280
    0101 .... = Header Length: 20 bytes (5)
    Flags: 0x018 (PSH, ACK)
    Window: 237
    [Calculated window size: 30336]
    [Window size scaling factor: 128]
    Checksum: 0x26a5 [unverified]
    [Checksum Status: Unverified]
    Urgent Pointer: 0
    [SEQ/ACK analysis]
    [Timestamps]
    TCP payload (239 bytes)
    TCP segment data (239 bytes)
[3 Reassembled TCP Segments (3011 bytes): #116(1386), #117(1386), #120(239)]
Hypertext Transfer Protocol
Line-based text data: text/html (68 lines)
```

Figure 2_module_1_task_2_Step_5 OK message

6. The request took 5.880318 - 5.831219 = 0.049099 seconds
7. The second time no ok message was received
8. I believe this is because the browser has cached the files and so it does not have to download them again.

Task 3

1. I am using the yahoo mail smtp server in task three and the Gmail server in task four. In both tasks I am sending mail to UWO outlook.
2. Both mail servers are using the TLS encryption