COMP3331 Lab2

Ruofei HUANG

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1 Exercise 1

1.1 Question 1

IP of gaia.cs.umass.edu: 128.119.245.12
It's using port 80.
Client is using IP:192.168.1.102 with port 1161

1.2 Question 2

Sequence number: 232129013

1.3 Question 3

First six segments are:

Seq. No.	Sent time	Ack recv. Time	RTT (ms)	Estimated RTT (ms)
232129013	1093095860.596858000	1093095860.624318000	2.74598598480225	2.74598598480225
232129578	1093095860.612118000	1093095860.647675000	3.55570316314697	2.84720063209534
232131038	1093095860.624407000	1093095860.694466000	7.00590610504150	3.36703881621361
232132498	1093095860.625071000	1093095860.739499000	11.4428043365479	4.37650950625539
232133958	1093095860.647786000	1093095860.787680000	13.9894008636475	5.57812092592940
232135418	1093095860.648538000	1093095860.838183000	18.9644813537598	7.25141597940819

1.4 Question 4

Length is 17520.

1.5 Question 5

The minimal buffer size of server is 6780. Yes it did. At the begin, the client send two segements at one time . But after the windowsize become larger, the client sent 5 package at once.

1.6 Question 6

No, there's not retransimit. I put

```
tcp.analysis.retransmission or tcp.analysis.
    fast_retransmission
```

at the filter field.

1.7 Question 7

It's acking 1460 Byte of data.

The server didn't open the delay acking. So it ack for each package it received. Which means I didn't identify the cases the receiver is acking every other received segment (delay acking).

1.8 Question 8

Start time: 0
End time: 7.595557
Start Seq: 232129012
End Seq: 232293103
Transfered Byte: 164091
Throughput (Byte/Second): 21603.55
Which is: 21.603 KB/s

2 Exercise 2

2.1 Question 1

For server, it's initiate at 2818463618.

2.2 Question 2

It's 1247095790. The ack filed is 2818463619. It's determined by the sequence number send from client as seq then ack as seq+1.

2.3 Question 3

Sequence number is 2818463619, Acknowlogement field of this ACK segment is 1247095791. No, this segment doesn't contain any data.

2.4 Question 4

The client do the activeclose. The client has ip 10.9.16.201 which sent the FIN segment first. No, this segment doesn't contain any data.

2.5 Question 5

From client to server: 2818463653- 2818463618-2 = 33
From server to client: 1247095832 - 1247095790-2 =40

It's final ack - initial seq. number - 2. The reson for -2 is the ack for SYN and FIN will +1 for the sequence numer, but those package doesn't have any data.