COMP3331 18s2 lab04

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Exercise 1

Q1:

1. IP address of gaia.cs.umass.edu is 128.119.245.12, port number is 80.
   And for client, IP address is 192.168.1.102, port number is 1161.
2. Sequence number: 232129013.
3. **seg4**Sequence number: 232129013 sent from: 0.026477s time when ACK recevied: 0.053937s RTT: 0.02746s EstimatedRtt: 0.02746s length: 565 **seg5**Sequence number: 232129578 sent from: 0.041737s time when ACK recevied: 0.077294s RTT: 0.035557s EstimatedRtt: 0.028472125s length: 1460 **seg7**Sequence number: 232131038 sent from: 0.054026s time when ACK recevied: 0.124085s RTT: 0.070059s EstimatedRtt: 0.033670484375s length: 1460 **seg8**Sequence number: 232132498 sent from: 0.054690s time when ACK recevied: 0.169118s RTT: 0.114428s EstimatedRtt: 0.04376512s length: 1460 **seg10**Sequence number: 232133958 sent from: 0.077405s time when ACK recevied: 0.217299s RTT: 0.139894s EstimatedRtt: 0.0557813s length: 1460 **seg11**Sequence number: 232135418 sent from:0.078157 time when ACK recevied: 0.267802s RTT: 0.189645s EstimatedRtt: 0.07251424s length: 1460

4.

```
see above
```

5.

```
5840bytes
By inspection, it is not throttled.
This reviver window grows until it reaches the maximum receiver buffer size
```

6.

```
no retransmitted segmens

check the sequence number and ack number
```

7.

```
2920bytes
receiver ack every other received segment for example: packet 80 and 87
```

1. TotalBytes: 232293103 - 232129012 = 164091 bytes TotalTime: 7.595557 AverageThroughput: 164091 / 7.595557 = 21603.550602 bytes/s

Exercise 2

1.

```
seqNum = 2818463618
```

2.

```
seqNum = 1247095791
ACK = 2818463619
If all data prior to server already received, the ACK will be next bytes of prior
sequence number, by contrast the ACK will be prior sequence number.
```

1. seqNum = 2818463619 ACK = 124705791 the segment contains 33 bytes data.

4.

```
client
because client send first FIN
simultaneous close
```

5.

```
client to server: 33 bytes
server to client: 40 bytes
it will be same
```