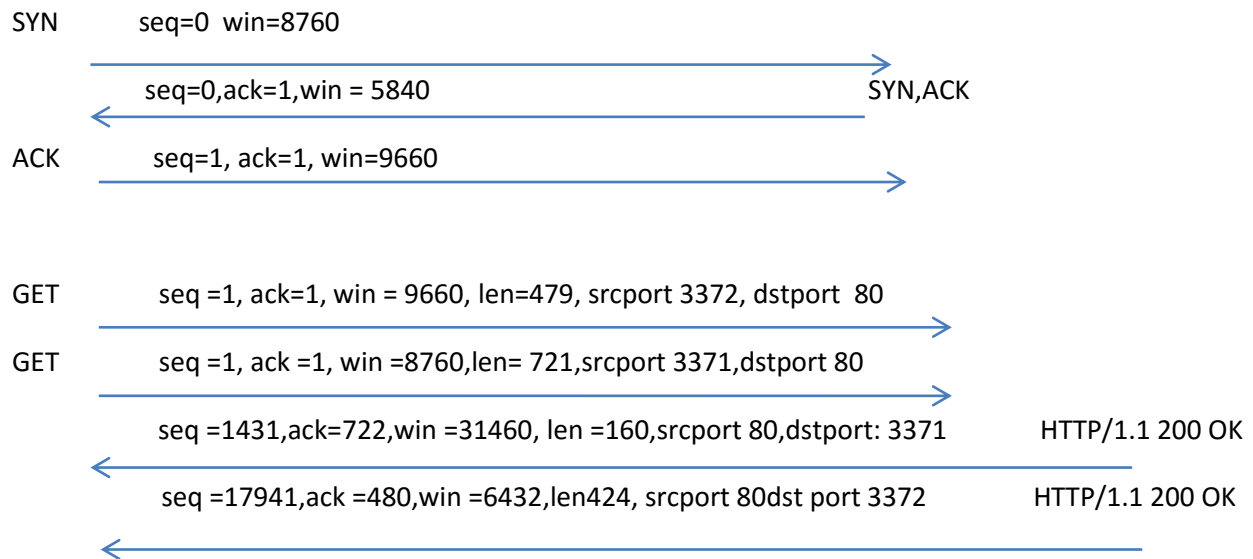


## Part A

(1)

The graph below only contains the three handshake and the http application data.



The graph below is information of each tcp packet

number of packets: 41

Direction	From	To	Port	Seq Num	Ack Num	Window Size
Client to Server	65.208.228.223	145.254.160.237	3372	290218379	951057940	5840
Server to Client	145.254.160.237	65.208.228.223	80	951057940	290218380	9660
Server to Client	145.254.160.237	65.208.228.223	80	951057940	290218380	9660
Client to Server	65.208.228.223	145.254.160.237	3372	290218380	951058419	6432
Client to Server	65.208.228.223	145.254.160.237	3372	290218380	951058419	6432
Server to Client	145.254.160.237	65.208.228.223	80	951058419	290219760	9660
Client to Server	65.208.228.223	145.254.160.237	3372	290219760	951058419	6432
Server to Client	145.254.160.237	65.208.228.223	80	951058419	290221140	9660
Client to Server	65.208.228.223	145.254.160.237	3372	290221140	951058419	6432
Client to Server	65.208.228.223	145.254.160.237	3372	290222520	951058419	6432
Server to Client	145.254.160.237	65.208.228.223	80	951058419	290223900	9660
Client to Server	65.208.228.223	145.254.160.237	3372	290223900	951058419	6432

packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290225280 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290225280 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290226660 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290226660 ack num 951058419 window size 6432  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290228040 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290229420 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290229420 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290230800 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290230800 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290232180 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290232180 ack num 951058419 window size 6432  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290233560 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290234940 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290234940 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290236320 window size 9660  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290236320 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290236744 window size 9236  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290236744 ack num 951058419 window size 6432  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290236745 window size 9236  
 packet from 145.254.160.237 port: 3372 to 65.208.228.223 port: 80 seq num: 951058419 ack num 290236745 window size 9236  
 packet from 65.208.228.223 port: 80 to 145.254.160.237 port: 3372 seq num: 290236745 ack num 951058420 window size 6432  
 packet from 216.239.59.99 port: 80 to 145.254.160.237 port: 3371 seq num: 778785668 ack num 918692089 window size 31460  
 packet from 216.239.59.99 port: 80 to 145.254.160.237 port: 3371 seq num: 778785668 ack num 918692089 window size 31460  
 packet from 216.239.59.99 port: 80 to 145.254.160.237 port: 3371 seq num: 778787098 ack num 918692089 window size 31460  
 packet from 145.254.160.237 port: 3371 to 216.239.59.99 port: 80 seq num: 918692089 ack num 778787258 window size 8760  
 packet from 216.239.59.99 port: 80 to 145.254.160.237 port: 3371 seq num: 778785668 ack num 918692089 window size 31460  
 packet from 145.254.160.237 port: 3371 to 216.239.59.99 port: 80 seq num: 918692089 ack num 778787258 window size 8760

For the first 3 transactions after the TCP connection is set up.

I assume the first 3 transactions means the first 3 packets.

The following are the 3 packets.

Src Port: 3372 (3372), Dst Port: 80 (80), Seq: 1, Ack: 1, Len: 479, win = 9660

Src Port: 80 (80), Dst Port: 3372 (3372), Seq: 1, Ack: 480, Len: 0, win = 6432

Src Port: 80 (80), Dst Port: 3372 (3372), Seq: 1, Ack: 480, Len: 1380, win = 6432

For the first packet, sequence number means that the host with source port number 3372 has already sent 1 byte, has received 1 byte from the host with source port number 80, current receive window is 9660.

For the second packet, sequence number means that the host with source port number 80 has already sent 1 byte, has received 480 byte from the host with source port number 3372, current receive window is 6432.

For the third packet, sequence number means that the host with source port number 80 has already sent 1 byte, has received 480 byte from the host with source port number 3372, current receive window is 6432, and is sending another 1380 bytes to the other side.