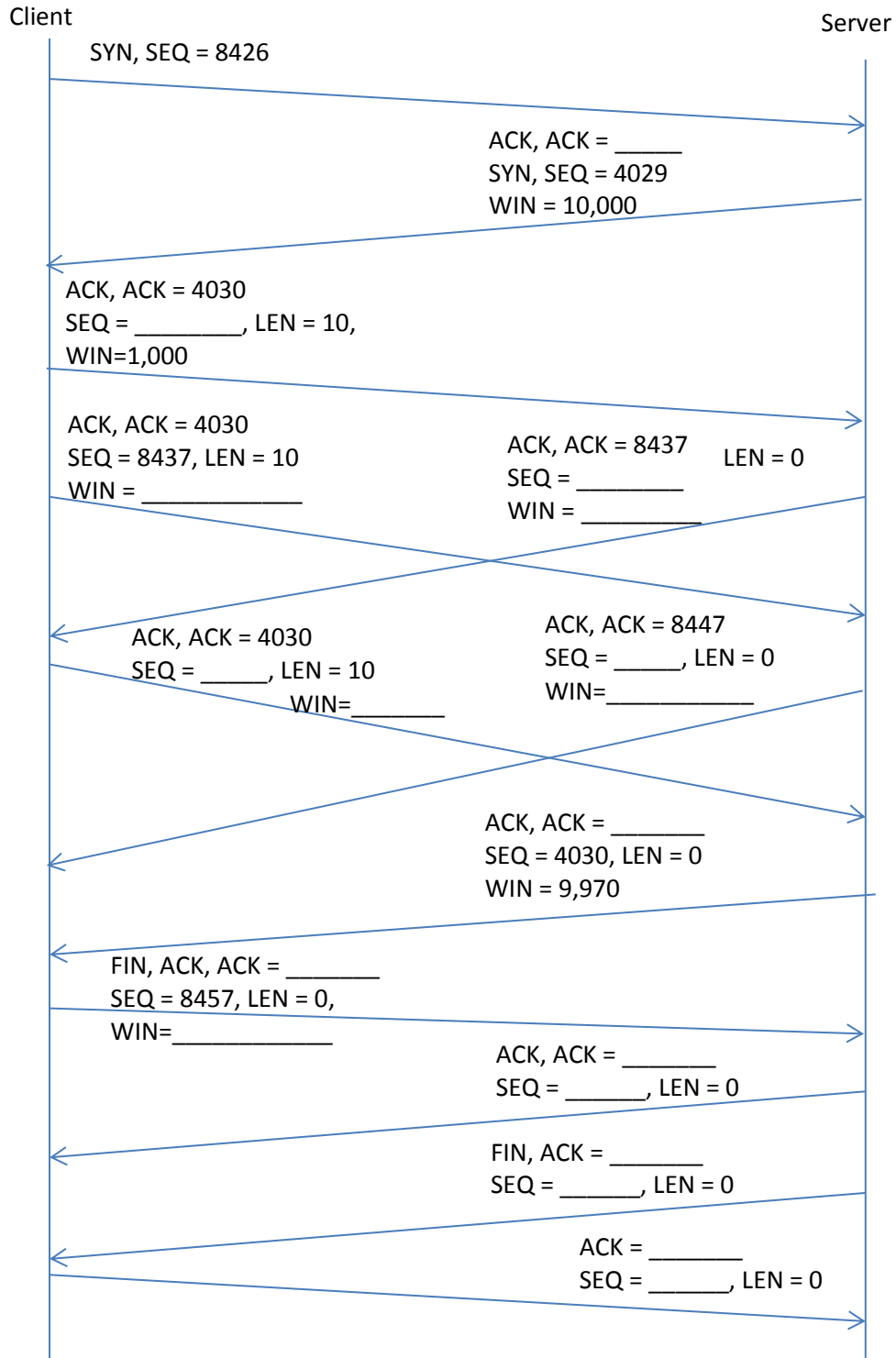# CS2911 Lab 8 Prelab

Name: _____

TCP Protocol

Fill in the blanks in the following TCP stream. Assume the receive buffers only fill up.

Client   Server

SYN, SEQ = 8426

ACK, ACK = _____
SYN, SEQ = 4029
WIN = 10,000

There are no
retransmitted
packets in this
example.

ACK, ACK = 4030
SEQ = _____, LEN = 10,
WIN=1,000

ACK, ACK = 4030
SEQ = 8437, LEN = 10
WIN = _____

ACK, ACK = 8437   LEN = 0
SEQ = _____
WIN = _____

ACK, ACK = 4030
SEQ = _____, LEN = 10
WIN=_____

ACK, ACK = 8447
SEQ = _____, LEN = 0
WIN=_____

ACK, ACK = _____
SEQ = 4030, LEN = 0
WIN = 9,970

FIN, ACK, ACK = _____
SEQ = 8457, LEN = 0,
WIN=_____

ACK, ACK = _____
SEQ = _____, LEN = 0

FIN, ACK = _____
SEQ = _____, LEN = 0

ACK = _____
SEQ = _____, LEN = 0

Pre-lab Questions

1. Suppose the sequence above was captured in Wireshark on both the client and the server. What differences would you see in the Wireshark capture between the two computers?

2. Suppose a packet were dropped. What differences would you see in the Wireshark capture between the two computers?

3. In which steps of the lab do you expect to find discrepancies between the machines?

In-Lab Questions

Bold step numbers refer to the numbering on the lab webpage.

4. On **step 3**, did you note any discrepancies between the captures on the two machines? If so, what are they?

5. On **step 5.2**, did you need to introduce a delay to reduce the window size to zero?

6. On **step 5**, what is the typical amount of data transferred (Len in Wireshark)?

7. On **step 5**, What is the window advertisement of the receiver at the start (first data ACK, not in any of the SYN, SYN/ACK,ACK packets)?

8. On **step 5**, the window advertisement should decrease as data is received. How much does the window size decrease by? Is this what you expect? (If not, what's going on here?)

9. On **step 5**, were there any discrepancies between the two captures?

10. On **step 6**, write the sequence number of the packet you picked: _____, data len:_____

    Write your predicted sequence number for the next packet: _____. Is it correct? If not, fix it and explain. Write the acknowledgement number for the packet acknowledging this data:

    _____. Find the packet in your Wireshark stream.x