

CS 372 Introduction to Computer Networks
Self-Check Exercises: Lecture 23

- 1) Describe the steps of the TCP connection setup.
- 2) Describe the steps of the TCP connection takedown.
- 3) What is fairness in TCP?
- 4) Is the UDP protocol fair?
- 5) What does TCP do better than UDP?
- 6) What does UDP do better than TCP?

- 7) Fill in the missing values and flags in the following connection setup (“handshake”) between client and server. (‘X’ means “not required”).

Event	Seq#	ACK#	ACK	SYN	FIN
Client requests connection to server.	72	X			
Server responds to request, allowing connection.	25				
Client confirms connection.	0				

- 8) Fill in the missing values and flags for the client closing the connection (“teardown”) between client and server. (‘X’ means “not required”).

Event	Seq#	AC #	ACK	SYN	FIN
Client closes connection.	72	X			
Server ACK’s request.	X				
Server closes its side of the connection.	25				
Client ACK’s, and times out.	0				

- 9) Given a 1 Gbps link with TCP applications A, B, and C. Application A has 3 TCP connections to a remote web server; application B has 1 TCP connection to a mail server; application C has 4 connections to a remote web server. According to TCP “fairness” ... during times when all connections are transmitting, how much bandwidth should each application have?