# CHAPTER 19

File Transfer: FTP and TFTP

Exercises

1.

If the control connection is accidentally severed during an FTP transfer, there would be no problem until the data transfer completed and the client attempted to send another command.

3.

There should be limitations on anonymous FTP because it is unwise to grant the public complete access to a system. If the commands that an anonymous user could use were not limited, that user could do great damage to the file system (e.g., erase it completely).
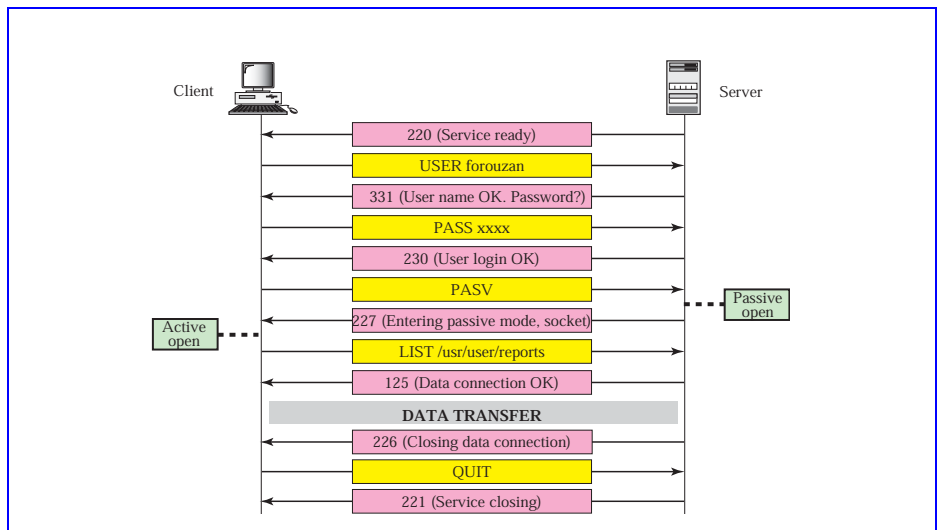
5. See Figure 19.1.

Figure 19.1 *Exercise 5*

Ephemeral port number			21	
Sequence number				
Acknowledgment number				
5	Reserved	Flags	Window size	
Checksum			Urgent Pointer	
"C"	"O"	"M"	"M"	
"A"	"N"	"D"	" "	
"a"	"r"	"g"	"u"	
"m"	"e"	"n"	"t"	
"s"	CR	LF		

7. See Figure 19.2.

Figure 19.2 *Exercise 7*

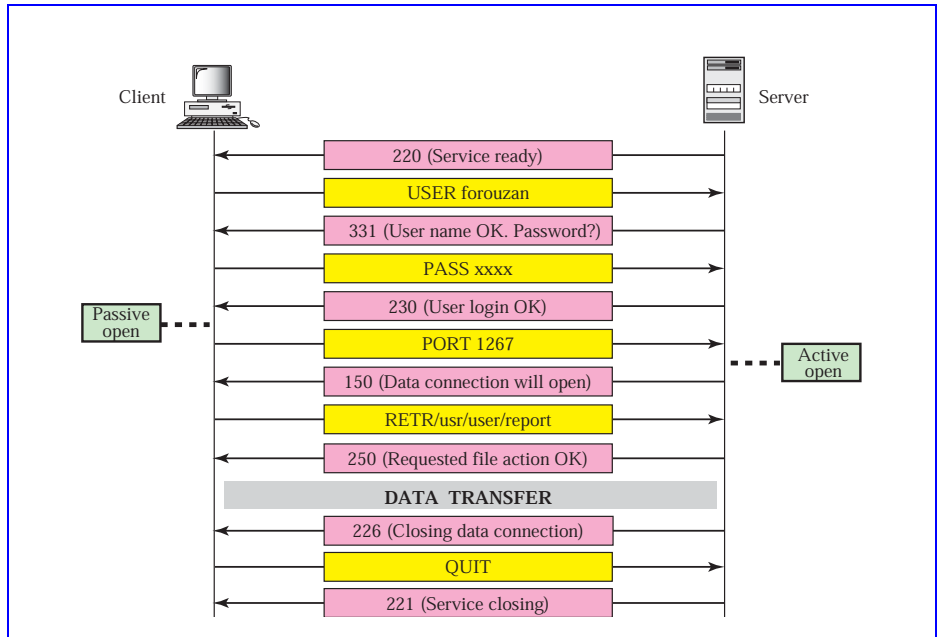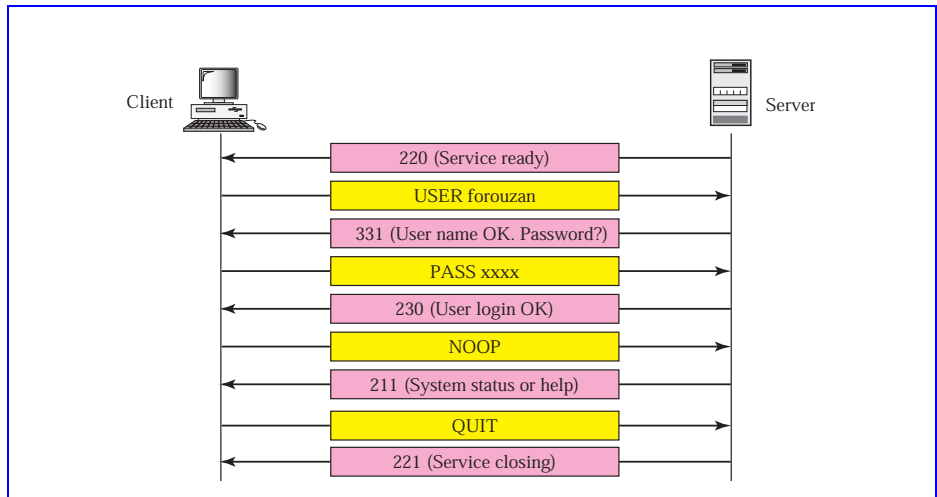| Ephemeral port number			20
Sequence number			
Acknowledgment number			
5	Reserved	Flags	Window size
Checksum			Urgent Pointer
DATA			
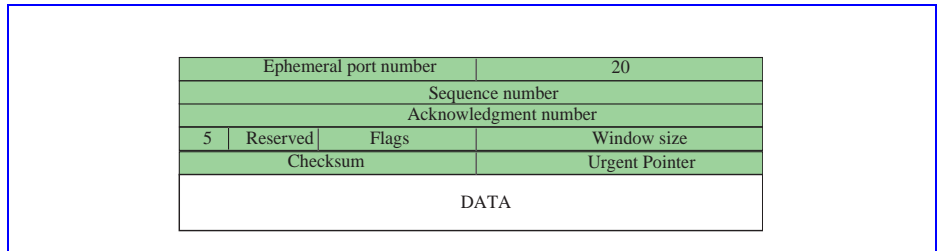
9. See Figure 19.3.

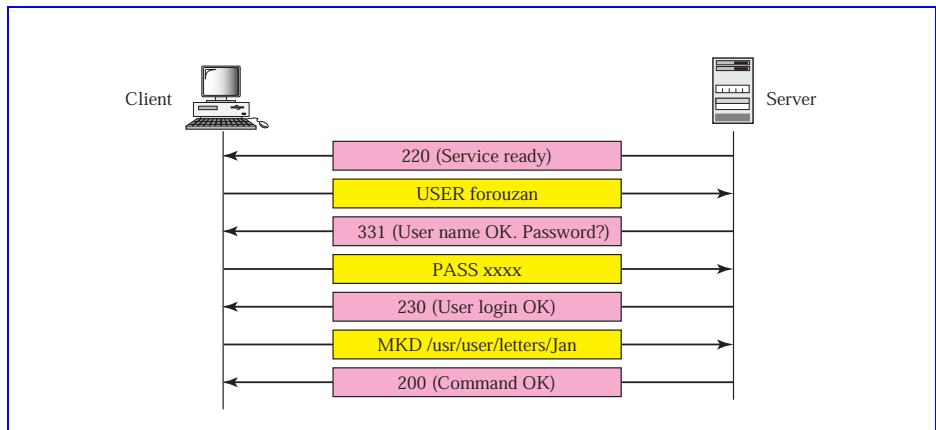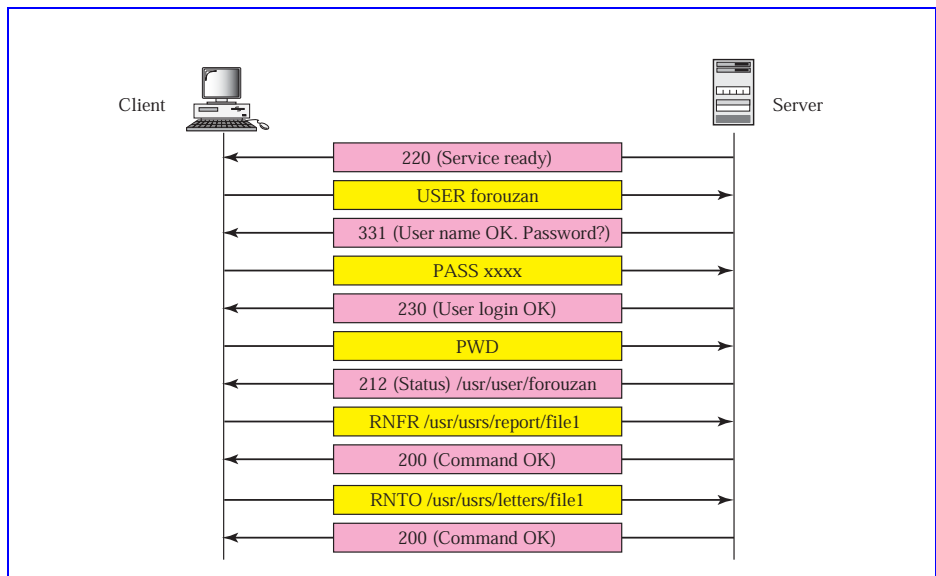**Figure 19.3** *Exercise 9*

11. See Figure 19.4.

13. See Figure 19.5

Figure 19.4   *Exercise 11*

Figure 19.5   *Exercise 13*

15. See Figure 19.6.

17. See Figure 19.7.

Figure 19.6 *Exercise 15*

Figure 19.7 *Exercise 17*

19.
    TFTP needs to use RRQ and WRQ messages for connection establishment and to let the server know what kind of service is required. These functions are served by various commands in FTP using the FTP control connection.
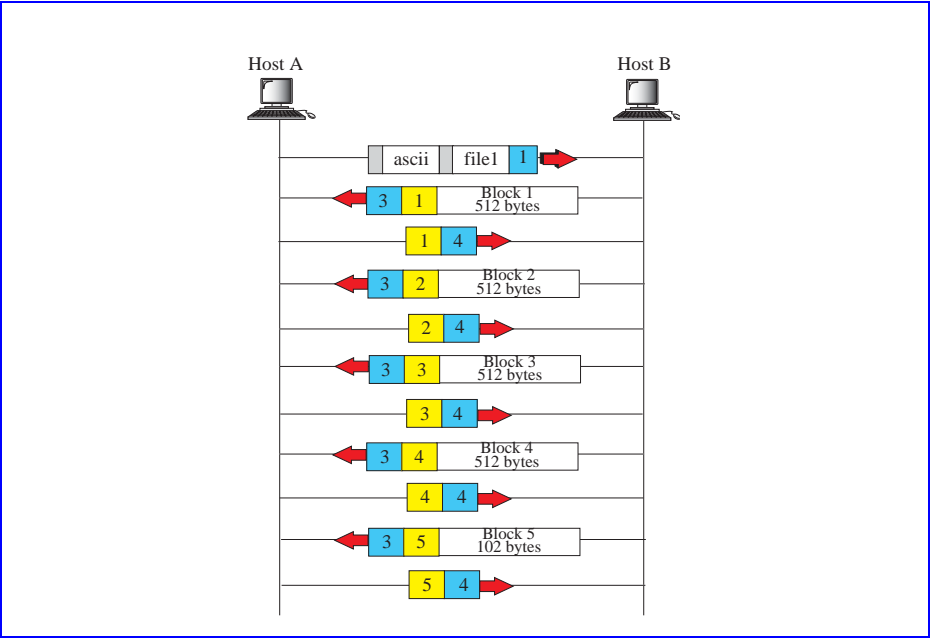
21. See Figure 19.8. The user datagram is 26 bytes.

Figure 19.8   *Exercise 21*

Ephemeral port number		69	
26		Checksum	
2		"R"	"e"
"p"	"o"	"r"	"t "
0	"n"	"e"	"t"
"a"	"s"	"c"	"i"
"i"	0		

23. See Figure 19.9.

Figure 19.9   *Exercise 23*

25. See Figure 19.10.

Figure 19.10 *Exercise 25*