CS 6380 Computer Networks	**Fall Quarter, 1997**

Homework 6

Assigned: November 26 | *Due: December 4*

Reminder: Late homeworks will NOT be accepted!

Subnet Number	Subnet Mask	Next Hop
128.96.39.0	255.255.255.128	Interface 0
128.96.39.128	255.255.255.128	Interface 1
128.96.40.0	255.255.255.128	R2
192.4.153.0	255.255.255.192	R3
default		R4

1. Suppose a router has built the routing table shown above. The router can deliver packets directly over interfaces 0 and 1 (i.e., to hosts that share a common physical medium with this router), or it can forward packets to routers R2, R3 or R4. Describe what the router does with a packet addressed to each of the following destinations:
   (a) 128.96.39.10
   (b) 128.96.40.12
   (c) 128.96.40.151
   (d) 192.4.153.17
   (e) 192.4.153.90
2. Use the Unix utility `netstat` to examine networking related data structures on a system. In particular, take a look at the interfaces (-i option), the routing tables (-r option), the traffic while you do other things (e.g., use a web browser) on the same system (interval option), and the active sockets. Briefly explain three interesting things that you learned, and include the traces that illustrate this.
3. Tannenbaum, 5.36
4. Tannenbaum, 6.3
5. Tannenbaum, 6.18
6. Read the Request for Comments (RFC) on Classless Interdomain Routing (CIDR), found on the class web page. Explain how this is backward-compatible, (i.e., how routers that do not understand CIDR can work with routers that understand CIDR).