Table 3.18 Routing Table for Exercise 55

SubnetNumber	SubnetMask	NextHop
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

✓ **56.** Suppose a router has built up the routing table shown in Table 3.19. The router can deliver packets directly over interfaces 0 and 1, or it can forward packets to routers R2, R3, or R4. Assume the router does the longest prefix match. Describe what the router does with a packet addressed to each of the following destinations:

(a) 128.96.171.92

(b) 128.96.167.151

(c) 128.96.163.151

(d) 128.96.169.192

(e) 128.96.165.121

Table 3.19 Routing Table for Exercise 56

SubnetNumber	SubnetMask	NextHop
128.96.170.0	255.255.254.0	Interface 0
128.96.168.0	255.255.254.0	Interface 1
128.96.166.0	255.255.254.0	R2
128.96.164.0	255.255.252.0	R3
⟨default⟩		R4

☆ **57.** Consider the simple network in Figure 3.56, in which A and B exchange distance-vector routing information. All links have cost 1. Suppose the A–E link fails.

■ **FIGURE 3.56** Simple network for Exercise 57.