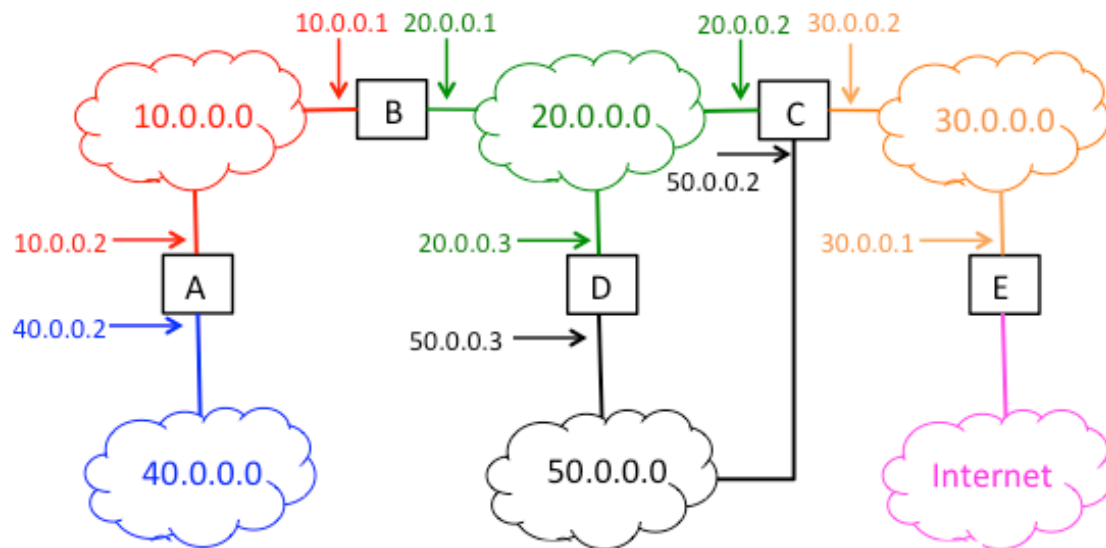


1. (24 Points) Show the routing tables for routers A, B, C, and D. Make sure you account for traffic to the Internet.



	Router A	Router B	Router C	Router D
Network	Next Hop	Next Hop	Next Hop	Next Hop
10.0.0.0	DIRECT	DIRECT	20.0.0.1	20.0.0.1
20.0.0.0	10.0.0.1	DIRECT	DIRECT	DIRECT
30.0.0.0	10.0.0.1	20.0.0.2	DIRECT	50.0.0.2
40.0.0.0	DIRECT	10.0.0.2	20.0.0.1	20.0.0.1
50.0.0.0	10.0.0.1	20.0.0.3	DIRECT	DIRECT
Default	10.0.0.1	20.0.0.3	30.0.0.1	50.0.0.2

2. (20 Points) Explain how the ARP Protocol works. Why is it needed? Give examples and be as specific as possible.
3. (25 Points) Explain fragmentation as it relates to datagrams. Why is it necessary? Where does it occur? When and where are the fragments reassembled? Give examples and be as specific as possible.