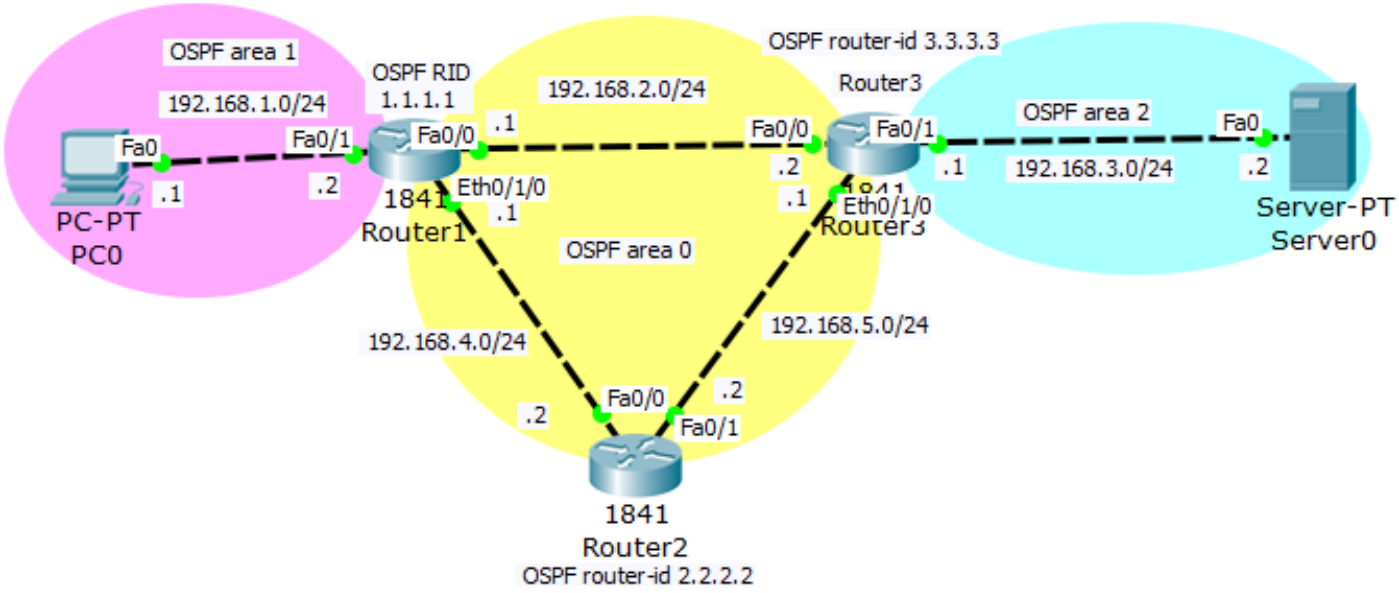
CS4471 OSPF Lab (version 1.3)

Name_____
CIN_____
Group_____

Use Cisco Packet Tracer to create the OSPF network shown below containing 3 interconnected Cisco 1841 routers, one computer, and one server. Note that three subnets need to be configured to be in OSPF area 0 while remaining two subnets are in different OSPF areas. Make sure that the three routers are configured with OSPF router-id values shown in diagram.



1. (2 pts) Verify that from PC0 you can ping the IP address of the other devices.
   a. Submit screenshot of the network drawn in Cisco Packet Tracer.
   b. Submit screenshot of output of command "tracert 192.168.3.2".

2. (2 pts) On Router1, verify that OSPF adjacency has been established with the other two routers.
   a. Submit output of IOS command "show ip ospf neighbor" executed on Router1.
   b. What are 7 possible states that OSPF can be in?
   c. What OSPF state should the router2 be in with each OSPF neighbor when everything is working correctly?

3. (1.5 pts) on Router3,
   a. submit the output of "show ip ospf interface".
   b. What is the meaning of OSPF Hello time, Dead time, Wait Time, and Retransmit time shown in the output?

4. (1.5 pts) On Router2, execute command "traceroute 192.168.2.1" a few times.
   a. How was Router2 routing traffic destined to 192.168.2.1 ? Explain this routing behavior.
   b. Submit output of command "show ip route" from Router2.

5. (1.5 pts) submit printout of output of “show running-config” of each router.

6. (1.5 pts) From simulation mode, capture and decode two different types of OSPF packets (such as Hello and LSU). Submit screenshots of these decoded packets.