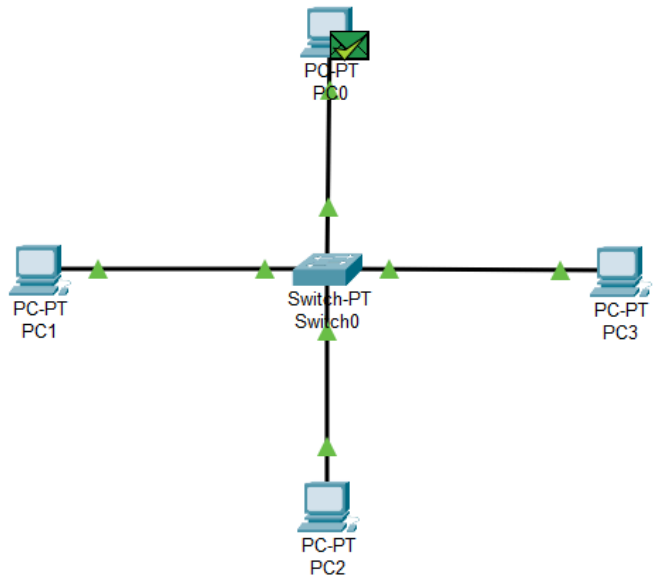
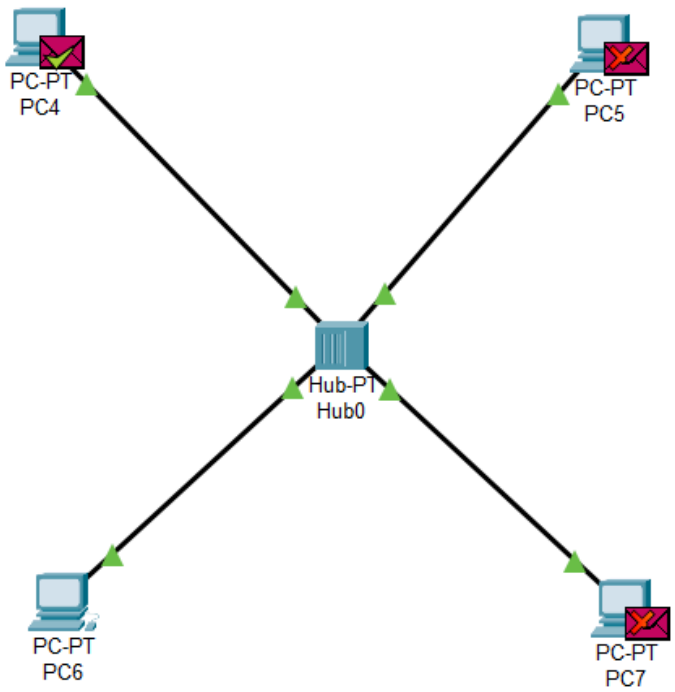
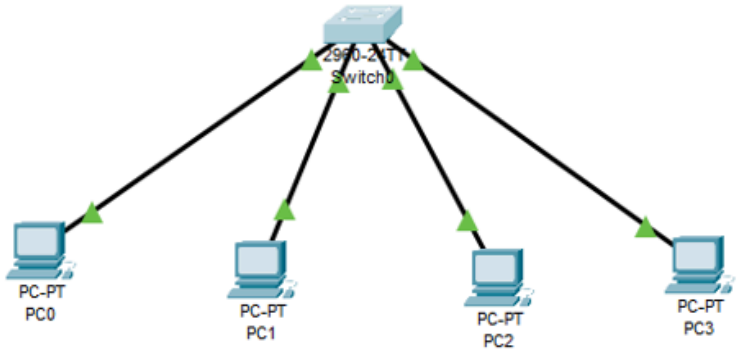

PC-PT
PC0
PC-PT
PC1
Switch-PT
Switch0
PC-PT
PC3
PC-PT
PC2


PC-PT
PC4
PC-PT
PC5
Hub-PT
Hub0
PC-PT
PC6
PC-PT
PC7

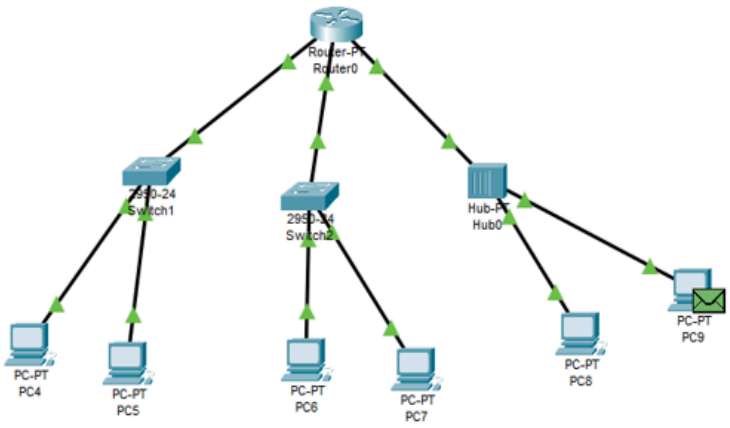
Q#2



Summary of Communication:

- **PC0 (192.168.1.36) ↔ PC1 (192.168.1.37) ↔ PC2 (192.168.1.38)**:
  - **Can communicate** since they are on the same subnet (192.168.1.32/27).
- **PC0, PC1, PC2 ↔ PC3 (192.168.1.91)**:
  - **Cannot communicate** directly because they are on different subnets (192.168.1.32/27 and 192.168.1.64/27).

Q#3



BEHAVIOUR:
Within the same network:

The ping will work as expected since they are in the same subnet and connected via the same switch. The traffic will be forwarded by the switch without involving the router, and the ping will receive replies promptly.

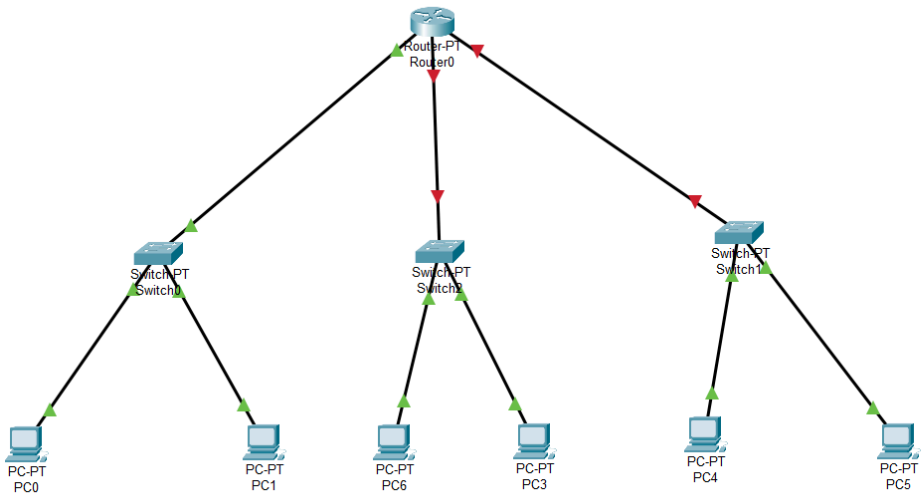
Devices on the Hub (Network 3):

Pinging between devices connected to the hub can lead to collisions and slower performance since hubs broadcast traffic to all connected devices. If two devices on Network 3 ping each other, they may experience packet collisions or delays.

Directly connected device (Network 4):

Since the directly connected device is on its own subnet, the router will handle all incoming and outgoing traffic for this device. Ping will behave as expected, but routing delays are minimal due to the direct connection.

Q#4



- In this star topology network, communication between devices in the same network (on the same switch) will be very fast due to local switching, while communication between devices on different networks will require routing through the central router, introducing slight delays.In this star topology network, communication between devices in the same network (on the same switch) will be very fast due to local switching, while communication between devices on different networks will require routing through the central router, introducing slight delays.In this star topology network, communication between devices in the same network (on the same switch) will be very fast due to local switching, while communication between devices on different networks will require routing through the central router, introducing slight delays.

Q#5:

ICMP is used for error messages and diagnostics (like pinging)

ARP resolves IP addresses to MAC addresses for local network communication.