Program 7

To understand the operation of TTL by sending a simple PDU from one network to different network

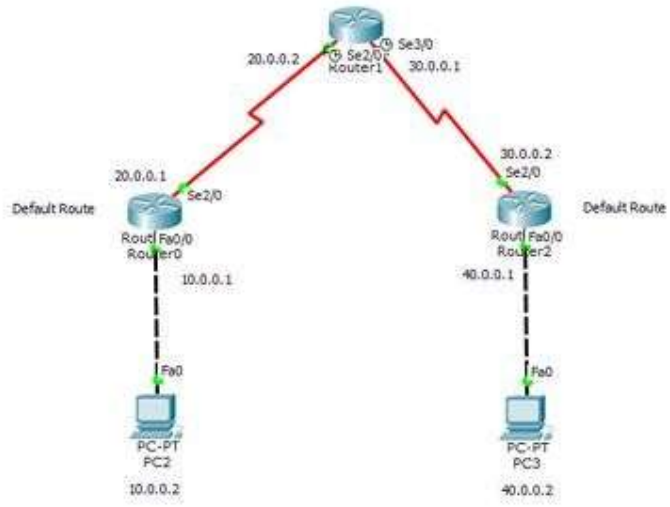


Figure 44: Topology

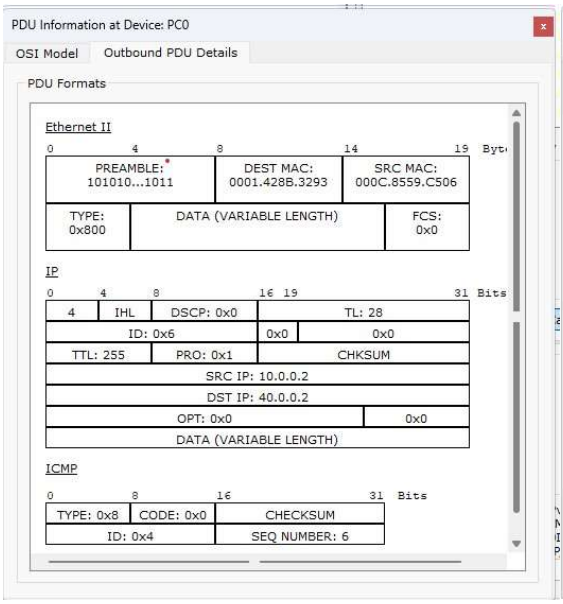


Figure 45: TTL of PC0

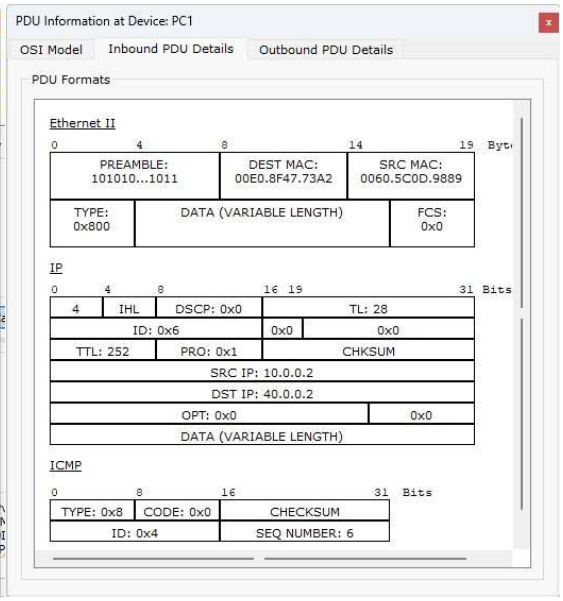


Figure 46: Inbound TTL of PC1

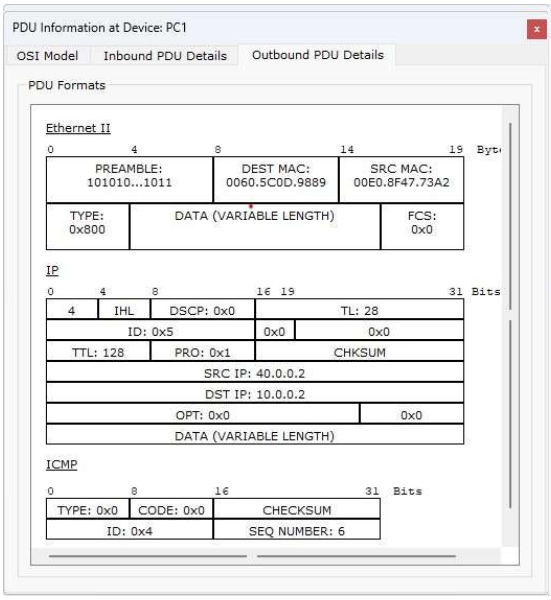


Figure 47: Outbound TTL of PC1

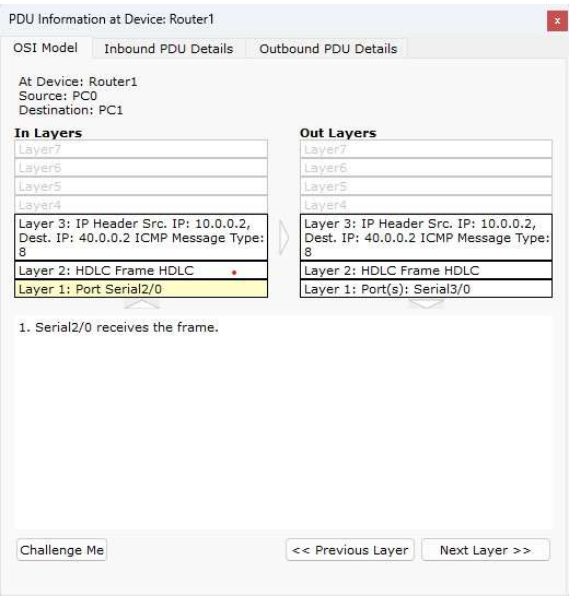


Figure 48: OSI Model of Router

Experiment 7:

Demonstrate the TTL (Life of a packet.

Observation:-

As a packet travels through a network, its TTL (Time to live) value decreases by 1 at each router it passes. Initially, the packet might start with a TTL of 255. When it reaches the first router, the TTL reduced to 254. As the packet continues its journey through each successive routers, the TTL continues to decrement - 253 after the second router, 252 after the third, and so on. If the TTL reaches 0 before reaching its destination, the packet is discarded, and an ICMP "Time Exceeded" message is sent back to the sender.

Topology:

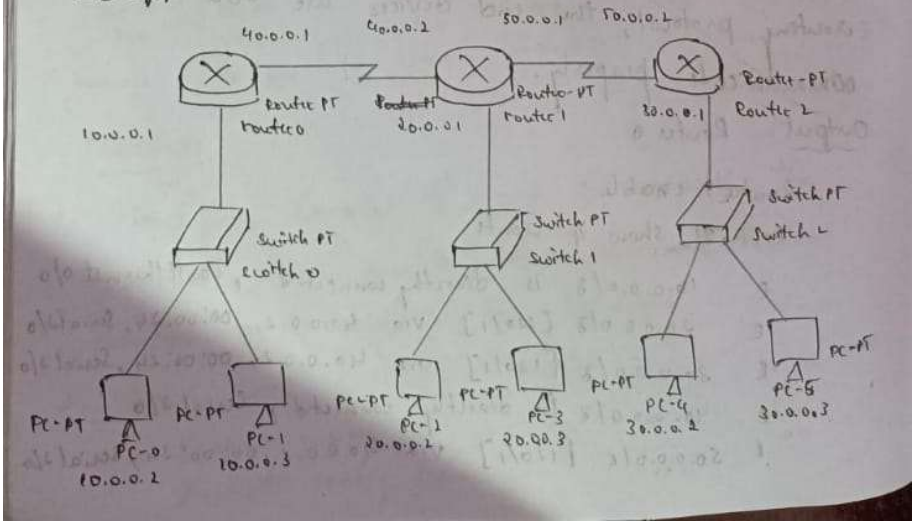
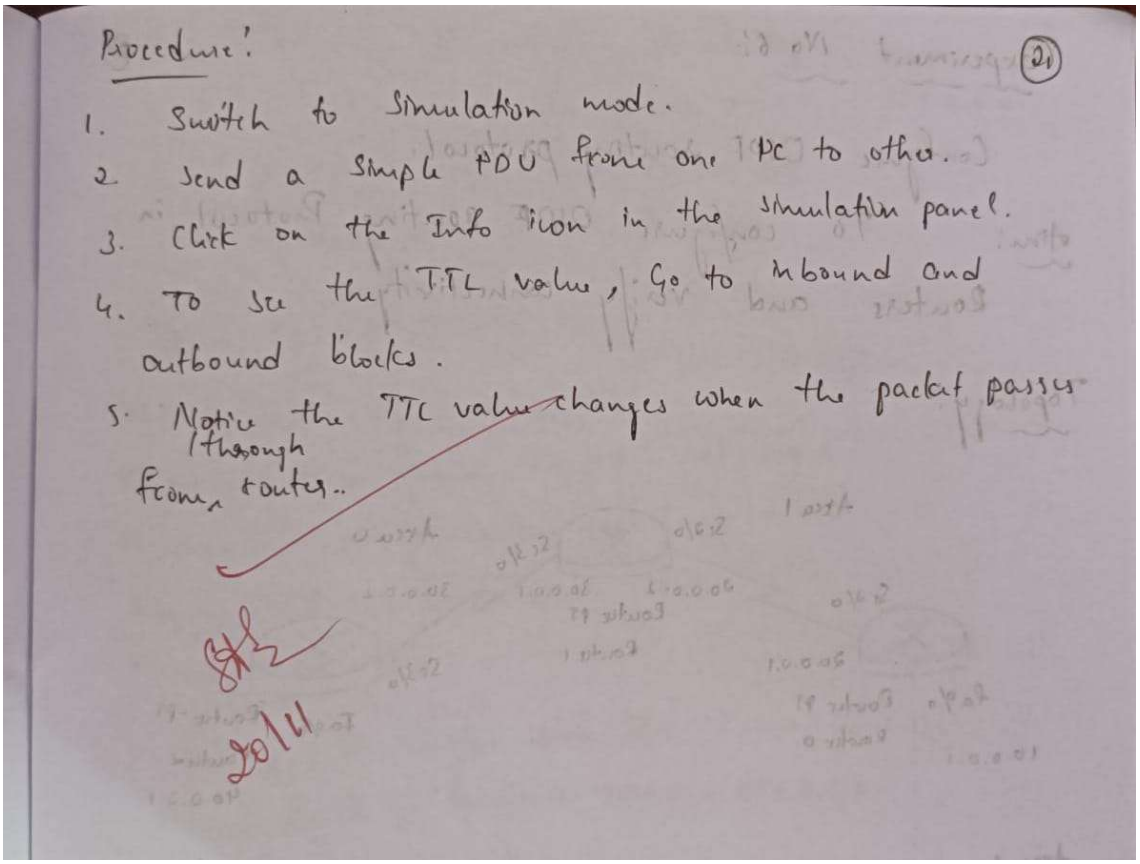


Figure 49: Observation book 1


Procedure:

(21)

1. Switch to Simulation mode.
2. Send a Simple PDU from one PC to other.
3. Click on the Info icon in the simulation panel.
4. To see the TTL value, Go to Inbound and outbound blocks.
5. Notice the TTL value changes when the packet passes through from routers.

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Figure 50: Observation book 2