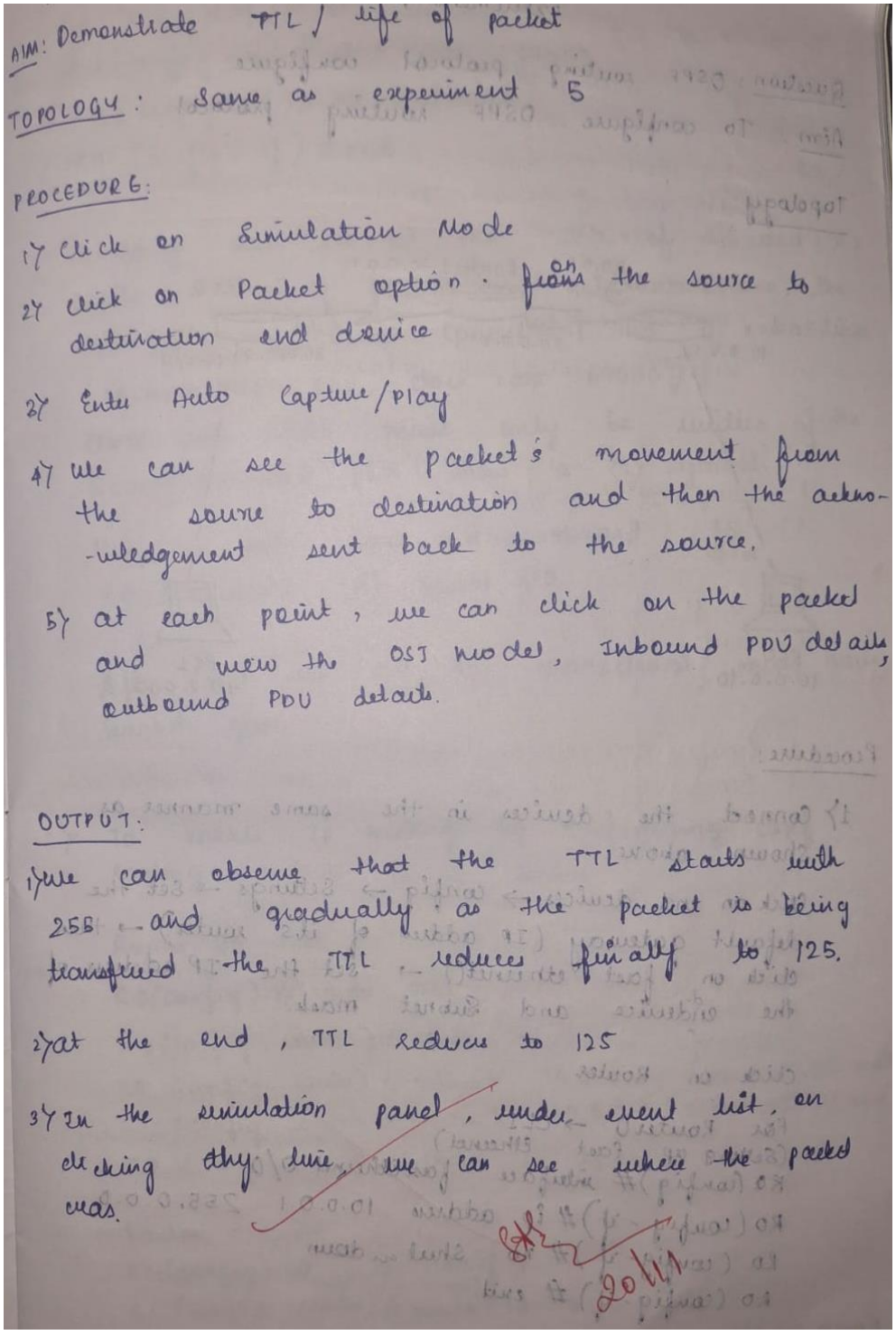
20|11|2024 Experiment 7- Demonstrate the TTL/ Life of a Packet

Observation Book:



AIM: Demonstrate TTL / life of packet

TOPOLOGY: Same as experiment 5

PROCEDURE:

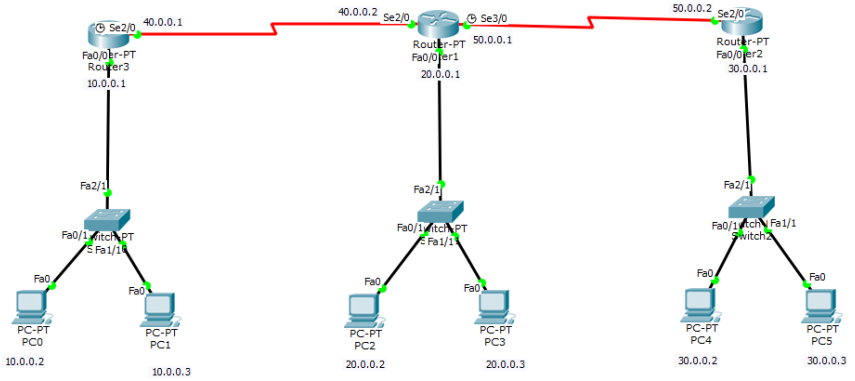
1) Click on Simulation Mode
2) Click on Packet option. from the source to destination end device
3) Enter Auto Capture/Play
4) We can see the packet's movement from the soure to destination and then the acknowledgement sent back to the source.
5) at each point, we can click on the packet and view the OSI model, Inbound PDU details, outbound PDU details.

OUTPUT:

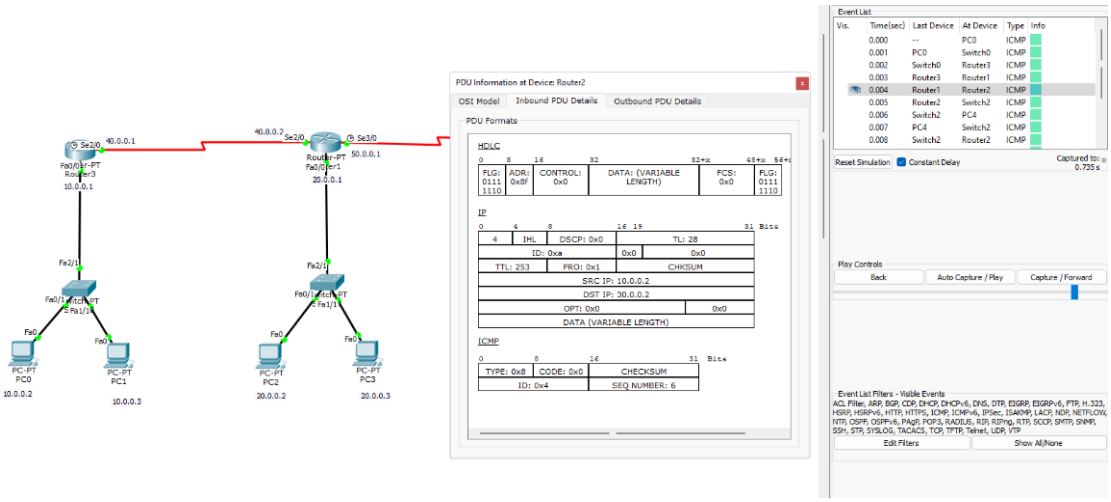
1) We can observe that the TTL starts with 255 and gradually as the packet is being transferred the TTL reduces finally to 125.
2) at the end, TTL reduces to 125
3) In the simulation panel, under event list, on clicking any line we can see where the packet was.

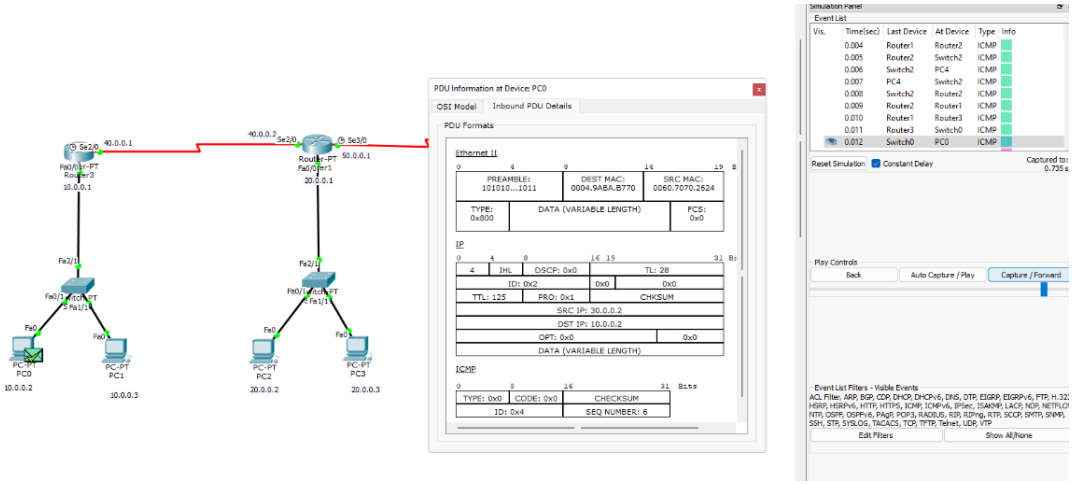
20/11

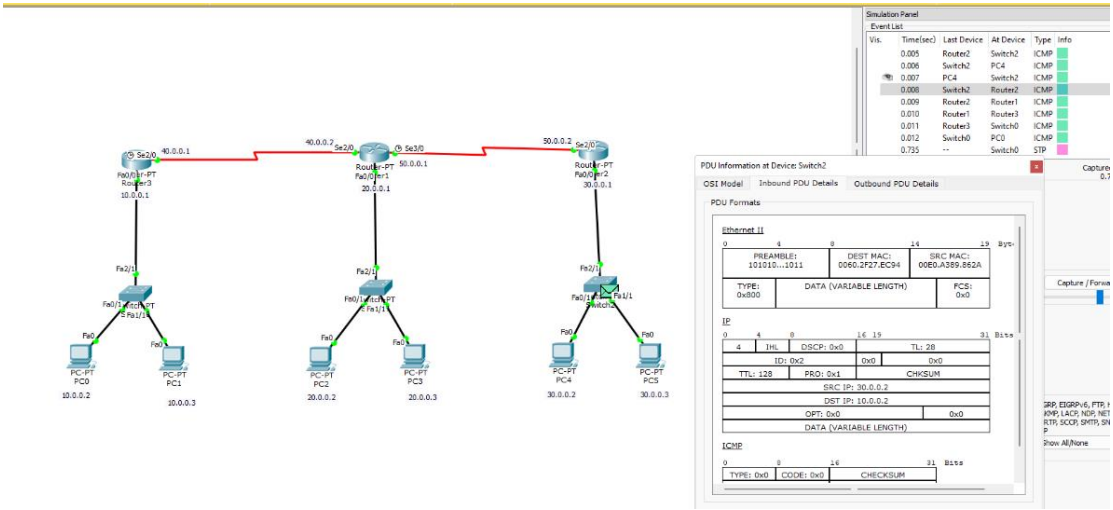
Topology:


40.0.0.1
Se2/0
40.0.0.2
Se2/0
Se3/0
50.0.0.1
50.0.0.2
Se2/0
Router-PT
Router3
10.0.0.1
Router-PT
Router1
20.0.0.1
Router-PT
Router2
30.0.0.1
Fa2/1
Fa0/1
Switch-PT
Fa1/1
Fa0
PC-PT
PC0
10.0.0.2
PC-PT
PC1
10.0.0.3
PC-PT
PC2
20.0.0.2
PC-PT
PC3
20.0.0.3
PC-PT
PC4
30.0.0.2
PC-PT
PC5
30.0.0.3

Output:


PDU Information at Device: Router2
OSI Model
Inbound PDU Details
Outbound PDU Details
PDU Formats
HDLC
FLG: 0111 1110
ADR: 0x8F
CONTROL: 0x0
DATA (VARIABLE LENGTH)
FCS: 0x0
FLG: 0111 1110
IP
IHL
DSCP: 0x0
TL: 28
ID: 0xa
TTL: 253
PRO: 0x1
CHKSUM
SRC IP: 10.0.0.2
DST IP: 30.0.0.2
OPT: 0x0
DATA (VARIABLE LENGTH)
ICMP
TYPE: 0x8
CODE: 0x0
CHECKSUM
ID: 0x4
SEQ NUMBER: 6
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
Reset Simulation
Constant Delay
Play Controls
Back
Auto Capture / Play
Capture / Forward
Edit Filters
Show All/None


PDU Information at Device: PC0
OSI Model
Inbound PDU Details
PDU Formats
Ethernet II
PREAMBLE: 101010...1011
DEST MAC: 0004.9ABA.B770
SRC MAC: 0060.7070.2624
TYPE: 0x800
DATA (VARIABLE LENGTH)
FCS: 0x0
IP
DSCP: 0x0
TL: 28
ID: 0x2
TTL: 125
PRO: 0x1
CHKSUM
SRC IP: 30.0.0.2
DST IP: 10.0.0.2
OPT: 0x0
DATA (VARIABLE LENGTH)
ICMP
TYPE: 0x0
CODE: 0x0
CHECKSUM
ID: 0x4
SEQ NUMBER: 6
Simulation Panel
Event List
Reset Simulation
Constant Delay
Play Controls
Back
Auto Capture / Play
Capture / Forward
Edit Filters
Show All/None


PDU Information at Device: Switch2
OSI Model
Inbound PDU Details
Outbound PDU Details
PDU Formats
Ethernet II
PREAMBLE: 101010...1011
DEST MAC: 0060.2F27.EC94
SRC MAC: 0060.A389.862A
TYPE: 0x800
DATA (VARIABLE LENGTH)
FCS: 0x0
IP
DSCP: 0x0
TL: 28
ID: 0x2
TTL: 128
PRO: 0x1
CHKSUM
SRC IP: 30.0.0.2
DST IP: 10.0.0.2
OPT: 0x0
DATA (VARIABLE LENGTH)
ICMP
TYPE: 0x0
CODE: 0x0
CHECKSUM
Simulation Panel
Event List