Program 7
Aim: Demonstrate the TTL/ Life of a Packet .

Topology , Procedure and Observation:

Aim : Demonstrate TTL / Life of a packet

TTL means time to leave for a packet
it tells that how & for how many
time units the packet will be there
in the network

Procedure
→ send a simple PDU from Pc1
to Pc4
→ club capture the event list then
observe the TTL of each router &
PDU Information

Observation
when the packet passes Router 0
before TT
inbound - TTL = 255 ms
outbound TTL = 254 ms

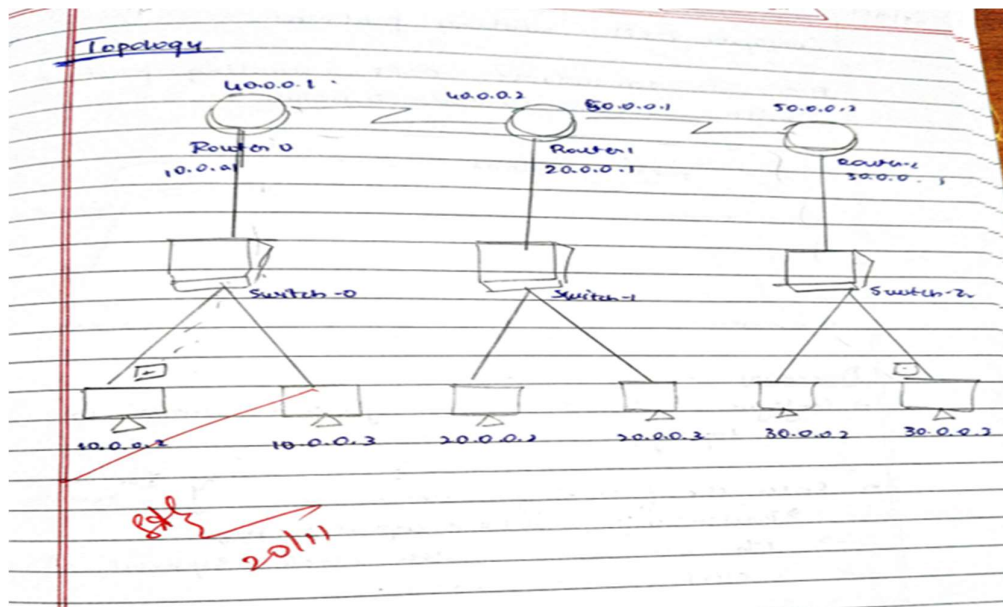When the packet passes from Router 0 to Router
inbound TTL = 254 ms
outbound TTL = 253 ms

when the packet passes across Router
inbound TTL = 253 m
inbound TTL = 252 ms

Hence we can conclude there will be
decrement in TTL for 1 ms when it
passes across Router

Screen Shots:

PDU Information at Device: Router0

OSI Model | Inbound PDU Details | Outbound PDU Details

At Device: Router0
Source: PC0
Destination: PC3

In Layers

| Layer7 |
| Layer6 |
| Layer5 |
| Layer4 |
| Layer 3: IP Header Src. IP: 10.0.0.2, Dest. IP: 20.0.0.3 ICMP Message Type: 8 |
| Layer 2: Ethernet II Header 000A.41E3.E33A >> 0010.11A0.4697 |
| Layer 1: Port FastEthernet0/0 |

Out Layers

| Layer7 |
| Layer6 |
| Layer5 |
| Layer4 |
| Layer 3: IP Header Src. IP: 10.0.0.2, Dest. IP: 20.0.0.3 ICMP Message Type: 8 |
| Layer 2: HDLC Frame HDLC |
| Layer 1: Port(s): Serial2/0 |

1. FastEthernet0/0 receives the frame.

Challenge Me | << Previous Layer | Next Layer >>

PDU Information at Device: Router0

OSI Model | **Inbound PDU Details** | **Outbound PDU Details**

PDU Formats

Ethernet II

0	4	8	14	19 Byte

PREAMBLE: 101010...1011	DEST MAC: 0010.11A0.4697	SRC MAC: 000A.41E3.E33A

TYPE: 0x800	DATA (VARIABLE LENGTH)	FCS: 0x0

IP

0	4	8	16	19	31 Bits

4	IHL	DSCP: 0x0		TL: 28
ID: 0xa		0x0	0x0	
TTL: 255	PRO: 0x1	CHKSUM		
SRC IP: 10.0.0.2				
DST IP: 20.0.0.3				
OPT: 0x0		0x0		
DATA (VARIABLE LENGTH)				

ICMP

0	8	16	31 Bits

TYPE: 0x8	CODE: 0x0	CHECKSUM

PDU Information at Device: Router0

OSI Model | **Inbound PDU Details** | **Outbound PDU Details**

PDU Formats

HDLC

0	8	16	32	32+x	48+x	56+x

FLG: 0111 1110	ADR: 0x8f	CONTROL: 0x0	DATA: (VARIABLE LENGTH)	FCS: 0x0	FLG: 0111 1110

IP

0	4	8	16	19	31 Bits

4	IHL	DSCP: 0x0		TL: 28
ID: 0xa		0x0	0x0	
TTL: 254	PRO: 0x1	CHKSUM		
SRC IP: 10.0.0.2				
DST IP: 20.0.0.3				
OPT: 0x0		0x0		
DATA (VARIABLE LENGTH)				

ICMP

0	8	16	31 Bits

TYPE: 0x8	CODE: 0x0	CHECKSUM
ID: 0x5	SEQ NUMBER: 10	