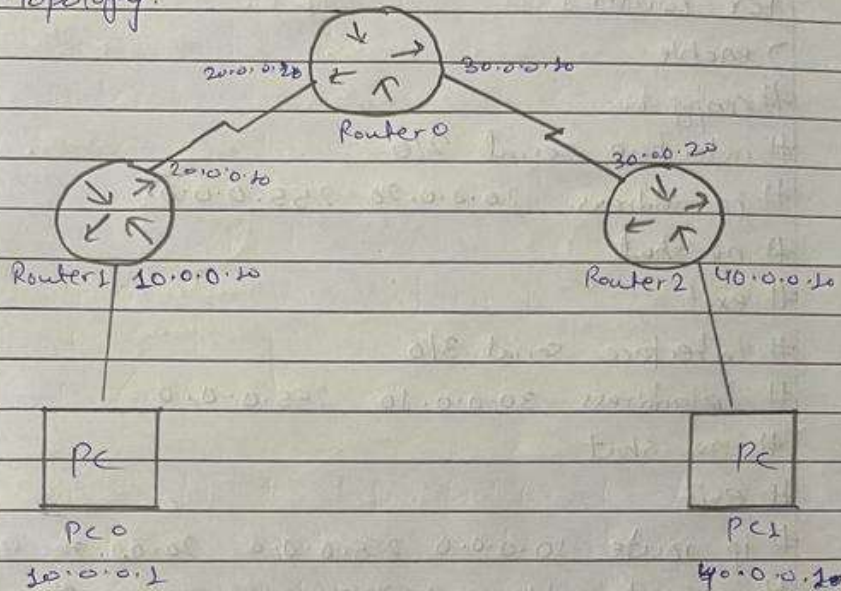Experiment - 10

Aim: To demonstrate the TTL / life of a Packet

Topology:

Procedure:

1.) Create a 2 Pc and 3 router configuration as shown in the topology.

2.) Use serial DTE between routers and copper cross over between router and PC.

3.) Configuration the IP address and gateway of PC and configure all the routers.

for Router 0.

> enable
config t
interface fastethernet 0/0
ip address 10.0.0.10 255.0.0.0
no shut
exit

ip route 30.0.0.0 255.0.0.0 20.0.0.20
ip route 40.0.0.0 255.0.0.0 20.0.0.20
exit.

for router 1
> enable
config t
interface serial 2/0
ip address 20.0.0.20 255.0.0.0.
no shut
exit
interface serial 3/0
ip address 30.0.0.10 255.0.0.0
no shut
exit
ip route 10.0.0.0 255.0.0.0 20.0.0.90
ip route 40.00.0 255.0.0.0 30.0.0.20
exit

for router 2
> enable
config t
interface serial 2/0
ip address 30.0.0.20 255.0.0.0
no shut
exit
interface fastethernet 0/0
ip address 40.0.0.10 255.0.0.0
no shut
exit
ip route 10.0.0.0 255.0.0.0 30.0.0.10
ip route 20.0.0.0 255.0.0.0 30.0.0.10

4.) Select simulation mode & select simple PDU and select source & destination PC's.

5.) Click on capture button to send P.DU and acknowledgement from PC to router and router to PC.

6.) Click on PDU during every transfer to see the inbound and outbound PDU details Observe the difference in the TTL.

Result

PDU information at PC0

outbound PDU details:

$TTL = 255$

PDU information at Router 0

Inbound PDU details:

$TTL = 255$

Outbound PDU details:

$TTL = 254$

PDU information at Router 1

Inbound PDU details:

$TTL = 254$

Outbound PDU details:

$TTL = 253$

PDU information at Router 2

Inbound PDU details:

$TTL = 253$

Outbound PDU details:

$TTL = 252.$

Observation:

The TTL is reduced by 1 in every router TTL is a mechanism which limits the number of hops between source & destination.