Experiment-3

A network consists of 6 nodes(n0-n5).

The duplex links n0 and n2, n1 and n2, n2 and n3, n3 and n4 and n4 & n5 with 0.1 Mbps of bandwidth and 10ms delay.

Create two PING agents and attach them to the nodes n0 and n2.

Connect the two agents and schedule the transmission of PING messages at an interval of 0.2 seconds and finish at 0.1 second.

Write a TCL script to observe the packet flow for the given network and observe the output in NAM for this network scenario.

File name: 3.tcl

```
# Simulator Panel

set ns [new Simulator]


set trf [open 3.tr w]

$ns trace-all $trf


set namf [open 3.nam w]

$ns namtrace-all $namf


# Nodes creation

set n0 [$ns node]

set n1 [$ns node]
```

```
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]
set n5 [$ns node]

# Link Creation
$ns duplex-link $n0 $n2 100KB 10ms DropTail
$ns duplex-link $n1 $n2  100KB 10ms DropTail
$ns duplex-link $n2 $n3 100KB 10ms DropTail
$ns duplex-link $n3 $n4  100KB 10ms DropTail
$ns duplex-link $n4 $n5  100KB 10ms DropTail

# Agent Creation
set ping0 [new Agent/Ping]
$ns attach-agent $n0 $ping0

set ping2 [new Agent/Ping]
$ns attach-agent $n2 $ping2

$ns connect $ping0 $ping2

# Coloring
```

```
$ns color 1 red
$ns color 2 green

$ping0 set class_ 1
$ping2 set class_ 2

# Define agent for RTT
Agent/Ping instproc recv {from rtt} {
   $self instvar node_
   puts "The node [$node_ id] received a reply from $from with RTT = $rtt"
}

# Finish procedure
proc finish {} {
   global ns trf namf
   $ns flush-trace
   close $trf
   close $namf
   exec nam 3.nam &
   exit 0
}
```

```
# Events
$ns at 0.2 "$ping0 send"
$ns at 0.4 "$ping0 send"
$ns at 0.6 "$ping0 send"
$ns at 0.8 "$ping0 send"
$ns at 1.0 "finish"

# Run simulation
$ns run
```

Execution Steps:

gedit 3.tcl
ns 3.tcl
gedit 3.tr