Don Bosco Institute of Technology, Kurla(W),Mumbai
Department of Information Technology

Network lab **SE_IT 2019(C scheme)**
A.Y. 2023-24 **SEM IV**

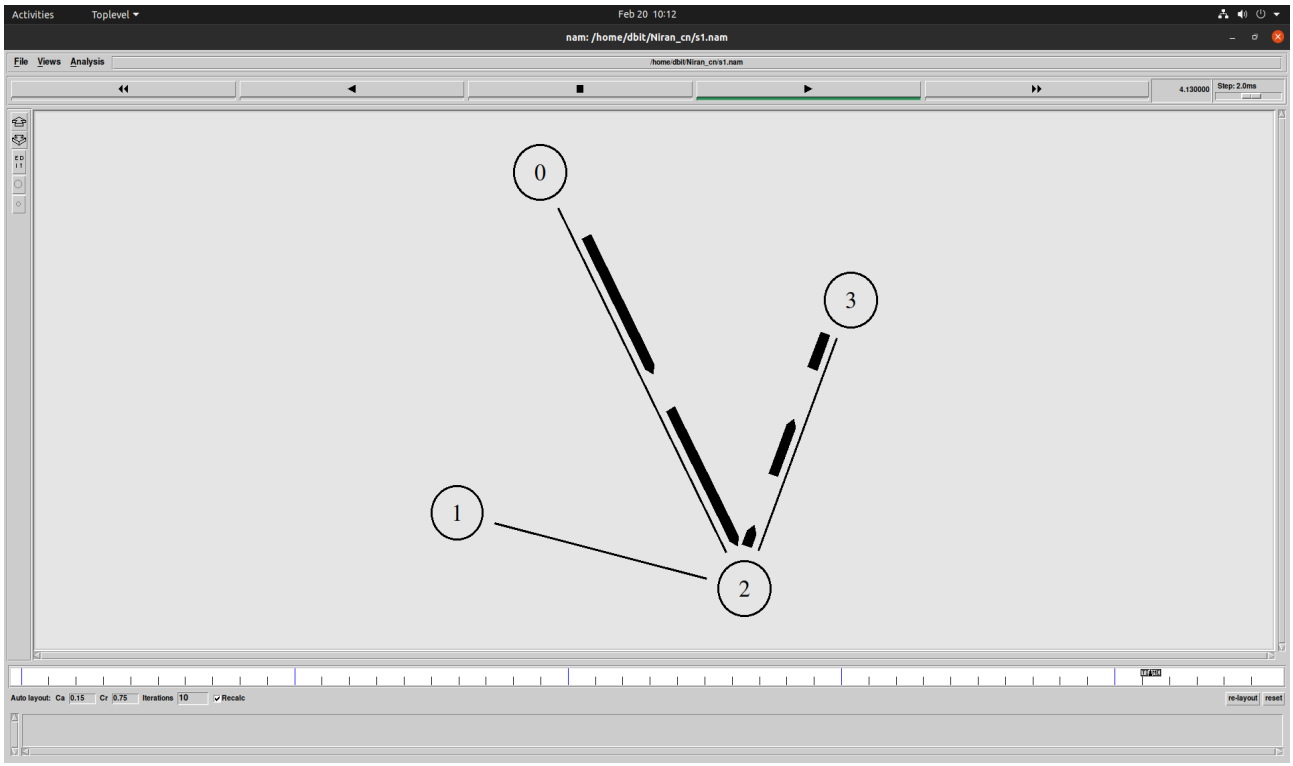
Name: Niranjan Kumar Yadav
Roll no. 65

Aim : Implementation of Specific Network topology with respect to Number of nodes and physical layer configuration.

Lab Outcome : ITL401.3 (Demonstrate and measure different network scenarios and their performance behaviour.)

Theory : In this section, we are going to develop a Tcl script for ns which simulates a simple topology. We are going to learn how to set up nodes and links, how to send data from one node to another, how to monitor a queue and how to start nam from our simulation script to visualize our simulation.

Output:



CODE:

```
#Create a simulator object
set ns [new Simulator]

#Open the nam trace file
set nf [open s1.nam w]
$ns namtrace-all $nf

#Open the nam trace file
set nf1 [open s1.tr w]
$ns trace-all $nf1

#Define a 'finish' procedure
proc finish {} {
global ns nf nf1
$ns flush-trace
#Close the trace file
close $nf
close $nf1
#Execute nam on the trace file
exec nam s1.nam &
exit 0
}


#Create two nodes
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]

#Create a duplex link between the nodes
$ns duplex-link $n0 $n2 1Mb 10ms DropTail
$ns duplex-link $n1 $n2 1Mb 10ms DropTail
$ns duplex-link $n2 $n3 1.5Mb 10ms DropTail

#Create a UDP agent and attach it to node n0
set udp0 [new Agent/UDP]
$ns attach-agent $n0 $udp0
```

Create a CBR traffic source and attach it to udp0
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 500
$cbr0 set interval_ 0.005
$cbr0 attach-agent $udp0

#Create a Null agent (a traffic sink) and attach it to node n3
set null0 [new Agent/Null]
$ns attach-agent $n3 $null0

#Connect the traffic source with the traffic sink
$ns connect $udp0 $null0

#Schedule events for the CBR agent
$ns at 0.5 "$cbr0 start"
$ns at 4.5 "$cbr0 stop"

#Call the finish procedure after 5 seconds of simulation time
$ns at 5.0 "finish"

#Run the simulation
$ns run