COMPUTER NETWORKS

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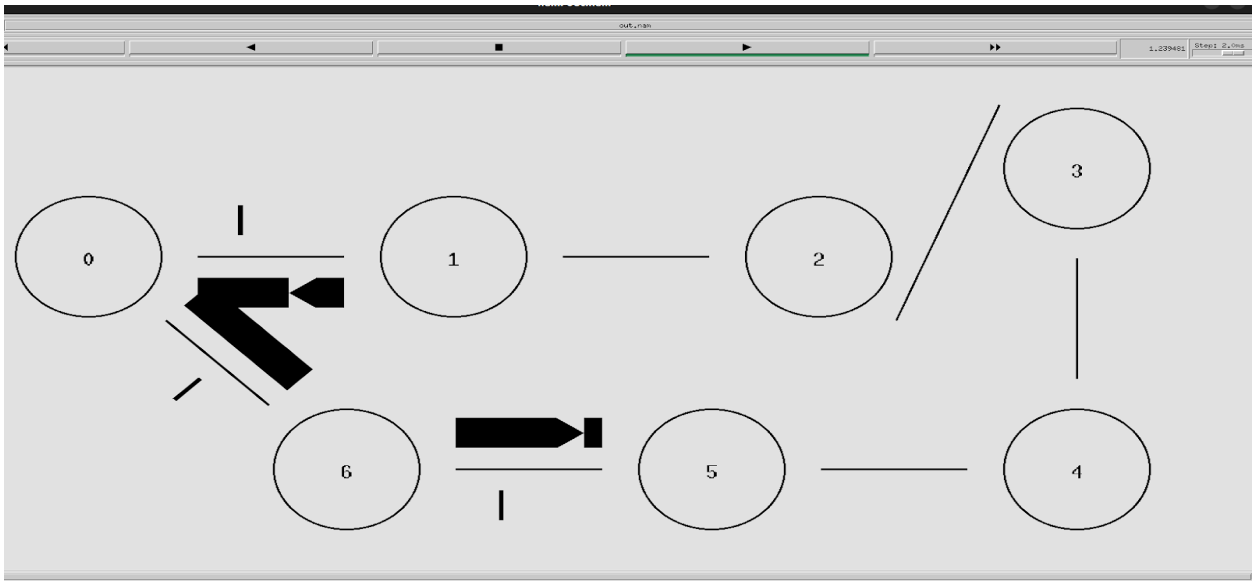
COMPUTER SCIENCE AND ENGINEERING
ID - 2022UCP1700
SECTION- A4

ASSIGNMENT – 8

2. Token Ring:

```
set ns [new Simulator]


set nf [open out.nam w]
$ns namtrace-all $nf


proc finish {}                    {
global ns nf
$ns flush-trace

close $nf

exec nam out.nam &
exit0
}

set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]
set n5 [$ns node]
set n6 [$ns node]

$ns duplex-link $n0 $n1 1Mb 10ms DropTail
$ns duplex-link $n1 $n2 1Mb 10ms DropTail


$ns duplex-link $n2 $n3 1Mb 10ms DropTail
$ns duplex-link $n3 $n4 1Mb 10ms DropTail
$ns duplex-link $n4 $n5 1Mb 10ms DropTail
$ns duplex-link $n5 $n6 1Mb 10ms DropTail
$ns duplex-link $n6 $n0 1Mb 10ms DropTail
```

```
$ns duplex-link-op $n0 $n1 orient left
$ns duplex-link-op $n1 $n2 orient left
$ns duplex-link-op $n2 $n3 orient left-down
$ns duplex-link-op $n3 $n4 orient down
$ns duplex-link-op $n4 $n5 orient right
$ns duplex-link-op $n5 $n6 orient right
$ns duplex-link-op $n6 $n0 orient right-up


set tcp0 [new Agent/TCP]
$tcp0 set class_ 1
$ns attach-agent $n1 $tcp0


set sink0 [new Agent/TCPSink]
$ns attach-agent $n5 $sink0

$ns connect $tcp0 $sink0


set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 500
$cbr0 set interval_ 0.01
$cbr0 attach-agent $tcp0

$ns at 0.5 "$cbr0 start"
$ns at 4.5 "$cbr0 stop"


$ns at 5.0 "finish"
#Run the simulation
$ns run
```

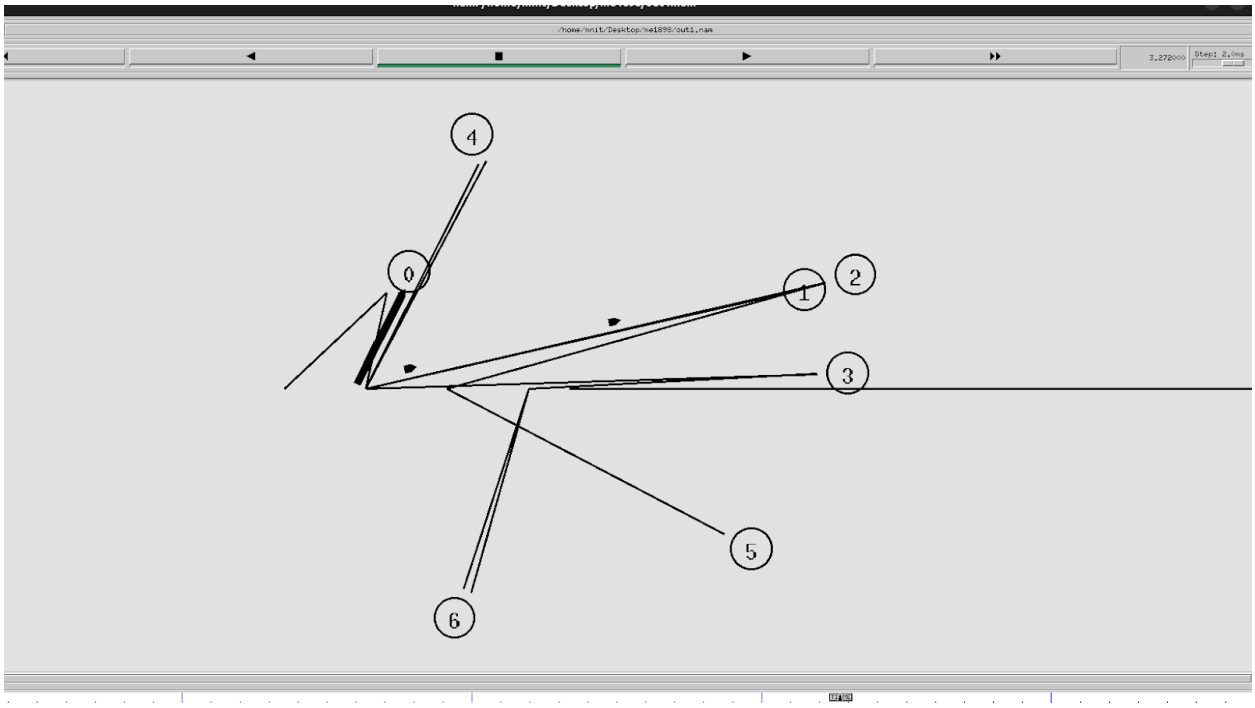


1. Token Bus:

#Create a simulator object

```
set ns [new Simulator]
#Open the nam trace file
set nf [open out1.nam w]
$ns namtrace-all $nf
#Define a 'finish' procedure
proc finish {} {
global ns nf
$ns flush-trace
#Close the trace file
close $nf
#Executenam on the trace file
exec nam out1.nam &
exit 0
}
#Create five nodes
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]
```

```
set n5 [$ns node]
set n6 [$ns node]
#Create Lan between the nodes
set lan0 [$ns newLan "$n0 $n1 $n2 $n3 $n4 $n5 $n6" 0.5Mb 40ms LL Queue/DropTail
MAC/Csma/Cd Channel]


#Create a TCP agent and attach it to node n0
set tcp0 [new Agent/TCP]
$tcp0 set class_ 1
$ns attach-agent $n1 $tcp0
#Create a TCP Sink agent (a traffic sink) for TCP and attach it to node n3
set sink0 [new Agent/TCPSink]
$ns attach-agent $n4 $sink0
#Connect the traffic sources with the traffic sink
$ns connect $tcp0 $sink0


# Create a CBR traffic source and attach it to tcp0
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 500
$cbr0 set interval_ 0.01
$cbr0 attach-agent $tcp0
#Schedule events for the CBR agents
$ns at 0.5 "$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
```



THE END