

Name: Alok Bhawankar

Roll No.: PA06

Lab Assignment No.3

#initialize the variables

set val(chan) Channel/WirelessChannel ;#Channel Type

set val(prop) Propagation/TwoRayGround ;#

radio-propagation model

set val(netif) Phy/WirelessPhy ;# network

interface type WAVELAN DSSS 2.4GHz

set val(mac) Mac/802_11 ;# MAC

type

set val(ifq) Queue/DropTail/PriQueue ;# interface queue

type

set val(ll) LL ;# link

layer type

set val(ant) Antenna/OmniAntenna ;# antenna

model

set val(ifqlen) 50 ;# max

packet in ifq

set val(nn) 6 ;# number

of mobilenodes

set val(rp) AODV ;# routing

Name: Alok Bhawankar

Roll No.: PA06

protocol

set val(x) 500 ;# in metres

set val(y) 500 ;# in metres

#Adhoc OnDemand Distance Vector

#creation of Simulator

set ns [new Simulator]

#creation of Trace and namfile

set tracefile [open wireless.tr w]

\$ns trace-all \$tracefile

#Creation of Network Animation file

set namfile [open wireless.nam w]

\$ns namtrace-all-wireless \$namfile \$val(x) \$val(y)

#create topography

set topo [new Topography]

\$topo load_flatgrid \$val(x) \$val(y)

#GOD Creation - General Operations

Director create-god \$val(nn)

set channel1 [new \$val(chan)]

set channel2 [new \$val(chan)]

set channel3 [new \$val(chan)]

#configure the node

Name: Alok Bhawankar

Roll No.: PA06

```
$ns node-config -adhocRouting $val(rp) \  
-llType $val(ll) \  
-macType $val(mac) \  
-ifqType $val(ifq) \  
-ifqLen $val(ifqlen) \  
-antType $val(ant) \  
-propType $val(prop) \  
-phyType $val(netif) \  
-topoInstance $topo \  
-agentTrace ON \  
-macTrace ON \  
-routerTrace ON \  
-movementTrace ON \  
-channel $channel1  
set n0 [$ns node]  
set n1 [$ns node]  
set n2 [$ns node]  
set n3 [$ns node]  
set n4 [$ns node]  
set n5 [$ns node]  
$n0 random-motion 0
```

Name: Alok Bhawankar

Roll No.: PA06

\$n1 random-motion 0

\$n2 random-motion 0

\$n3 random-motion 0

\$n4 random-motion 0

\$n5 random-motion 0

\$ns initial_node_pos \$n0 20

\$ns initial_node_pos \$n1 20

\$ns initial_node_pos \$n2 20

\$ns initial_node_pos \$n3 20

\$ns initial_node_pos \$n4 20

\$ns initial_node_pos \$n5 50

#initial coordinates of the nodes

\$n0 set X_ 10.0

\$n0 set Y_ 20.0

\$n0 set Z_ 0.0

\$n1 set X_ 210.0

\$n1 set Y_ 230.0

\$n1 set Z_ 0.0

\$n2 set X_ 100.0

\$n2 set Y_ 200.0

\$n2 set Z_ 0.0

Name: Alok Bhawankar

Roll No.: PA06

\$n3 set X_ 150.0

\$n3 set Y_ 230.0

\$n3 set Z_ 0.0

\$n4 set X_ 430.0

\$n4 set Y_ 320.0

\$n4 set Z_ 0.0

\$n5 set X_ 270.0

\$n5 set Y_ 120.0

\$n5 set Z_ 0.0

#mobility of the nodes

#At what Time? Which node?

Where to? at What Speed?

\$ns at 1.0 "\$n1 setdest 490.0 340.0
25.0"

\$ns at 1.0 "\$n4 setdest 300.0 130.0
5.0"

\$ns at 1.0 "\$n5 setdest 190.0 440.0
15.0"

\$ns at 20.0 "\$n5 setdest 100.0
200.0 30.0"

#creation of agents

Name: Alok Bhawankar

Roll No.: PA06

```
set tcp [new Agent/TCP]
set sink [new Agent/TCPSink]
$ns attach-agent $n0 $tcp $ns
attach-agent $n5 $sink $ns
connect $tcp $sink
set ftp [new Application/FTP]
$ftp attach-agent $tcp $ns at
1.0 "$ftp start"
set udp [new Agent/UDP]
set null [new Agent/Null]
$ns attach-agent $n2 $udp
$ns attach-agent $n3 $null
$ns connect $udp $null
set cbr [new
Application/Traffic/CBR]
$cbr attach-agent $udpn5 at 1.0
"$cbr start"
$ns at 30.0 "finish"
proc finish {} {
global ns tracefile namfile
$ns flush-trace
```

Name: Alok Bhawankar

Roll No.: PA06

```
close $tracefile
```

```
close $namfile
```

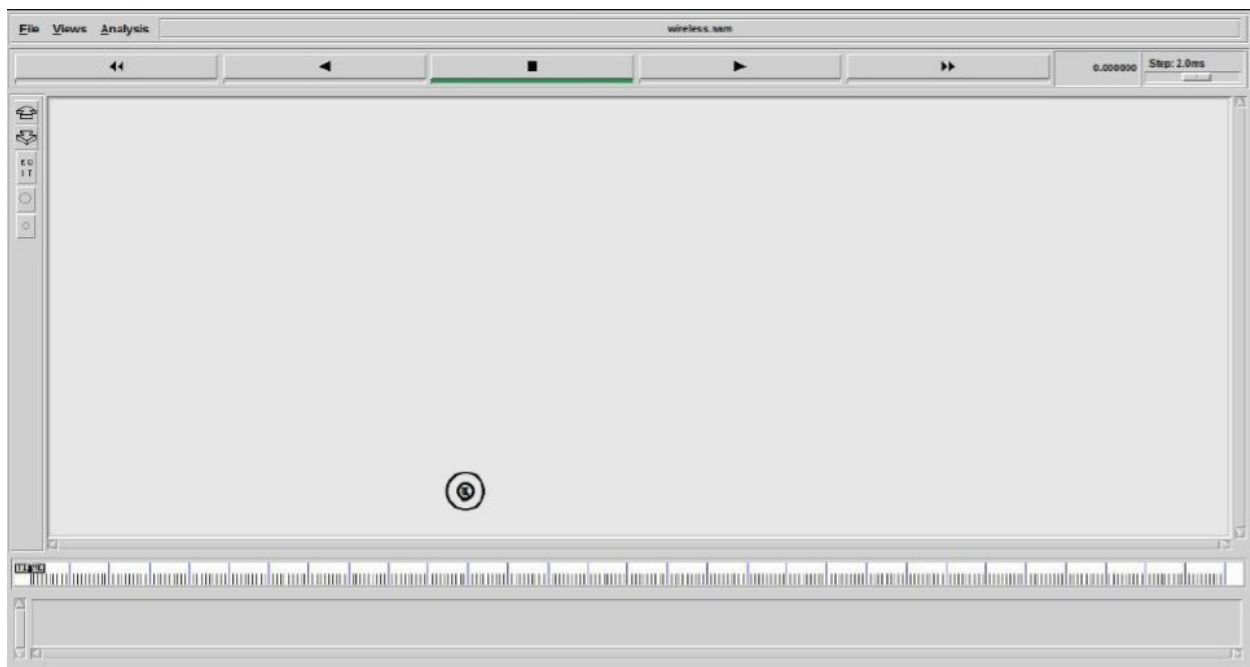
```
exit 0
```

```
}
```

```
puts "Starting Simulation"
```

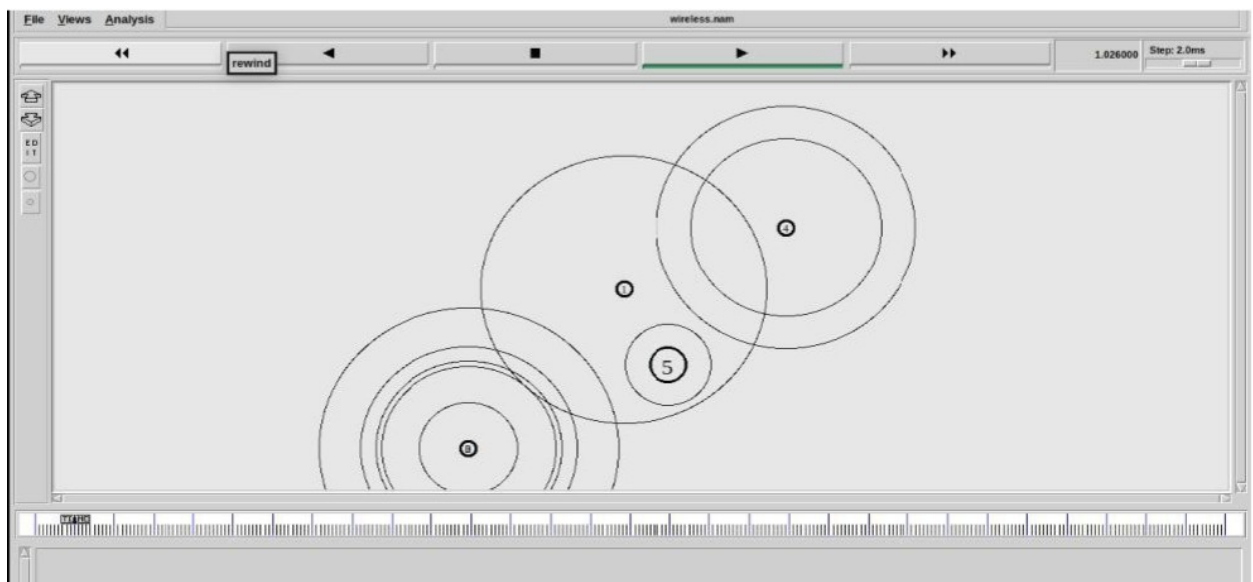
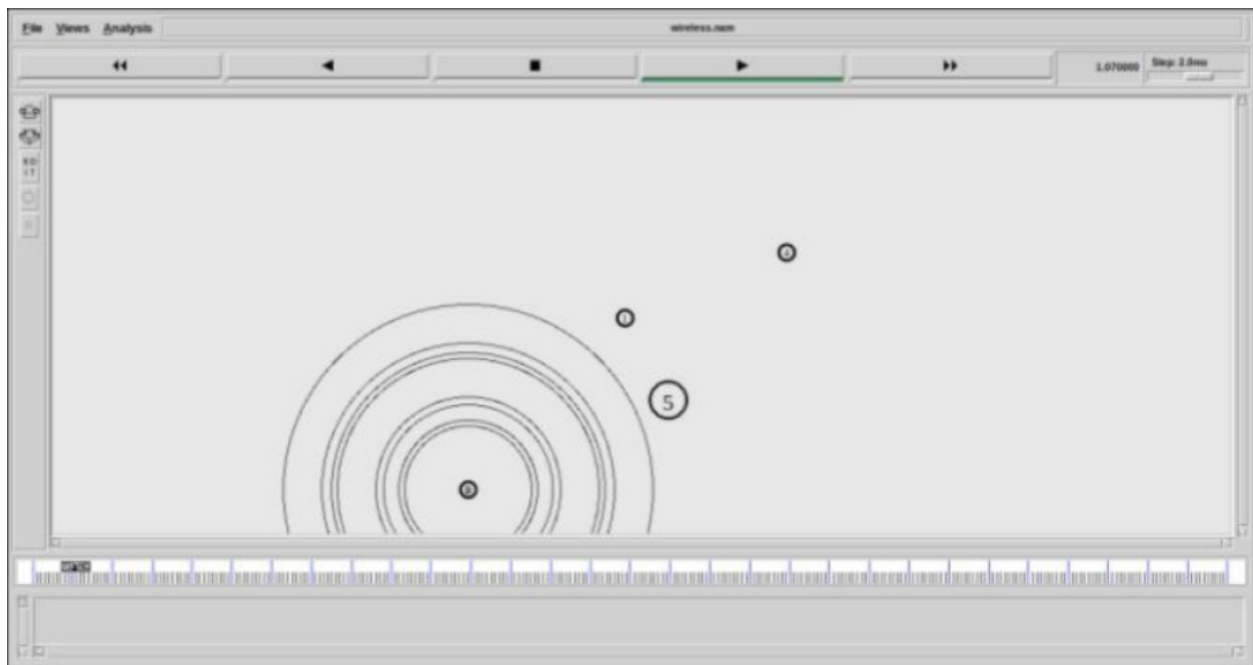
```
$ns run
```

OUTPUT:



Name: Alok Bhawankar

Roll No.: PA06



Name: Alok Bhawankar

Roll No.: PA06

