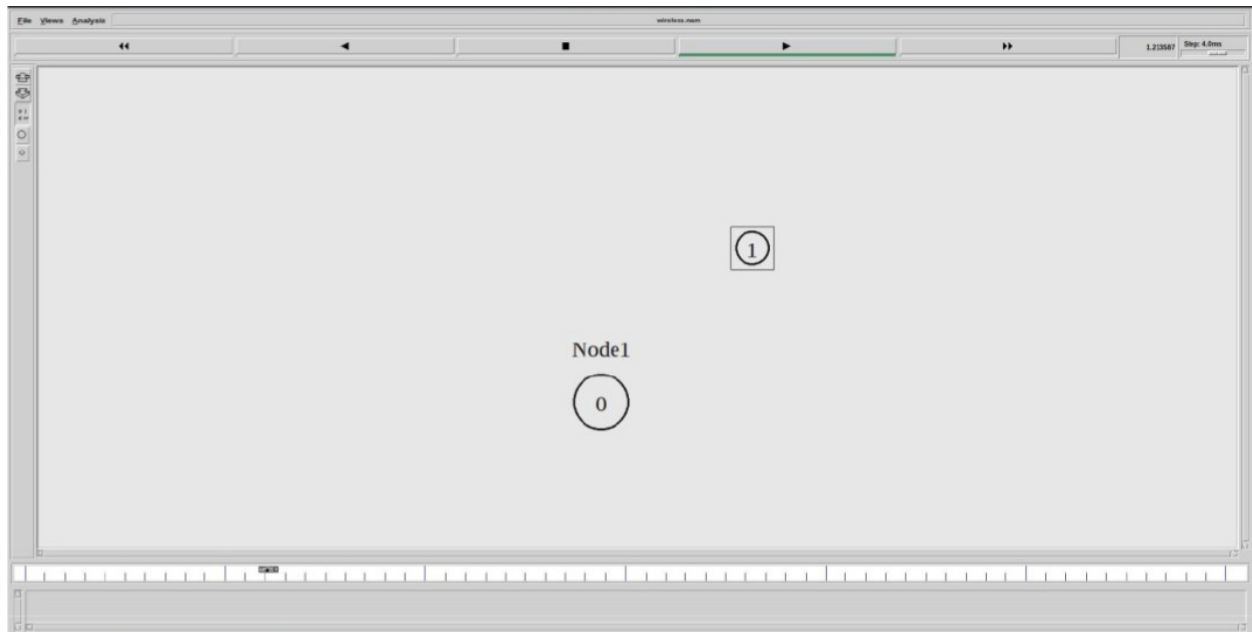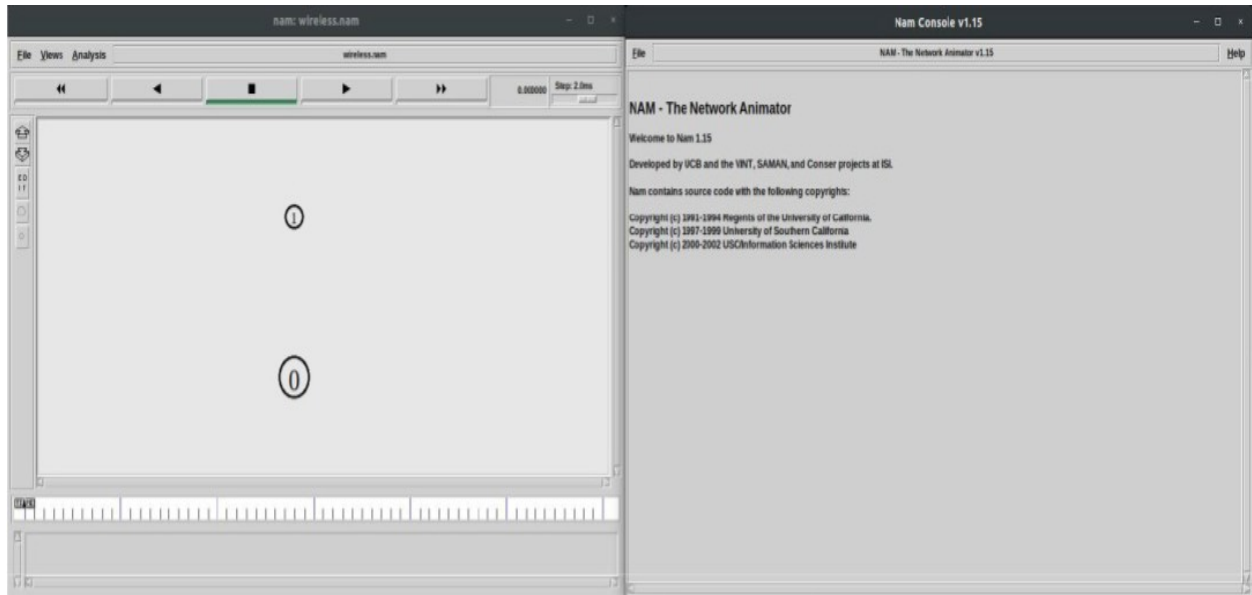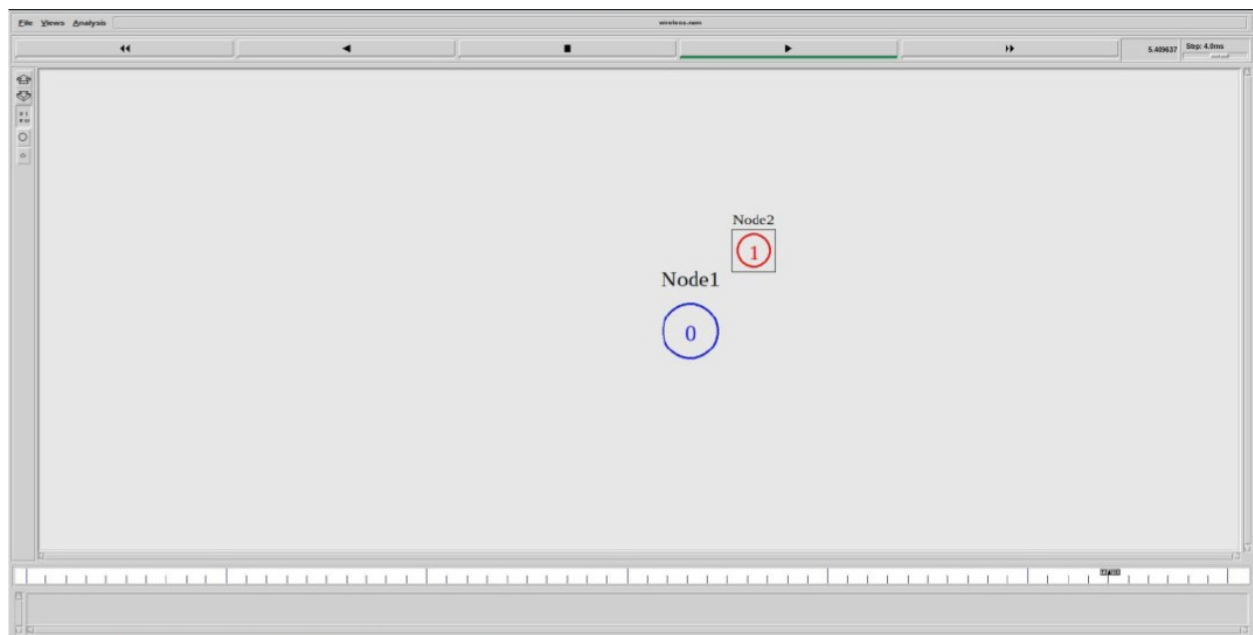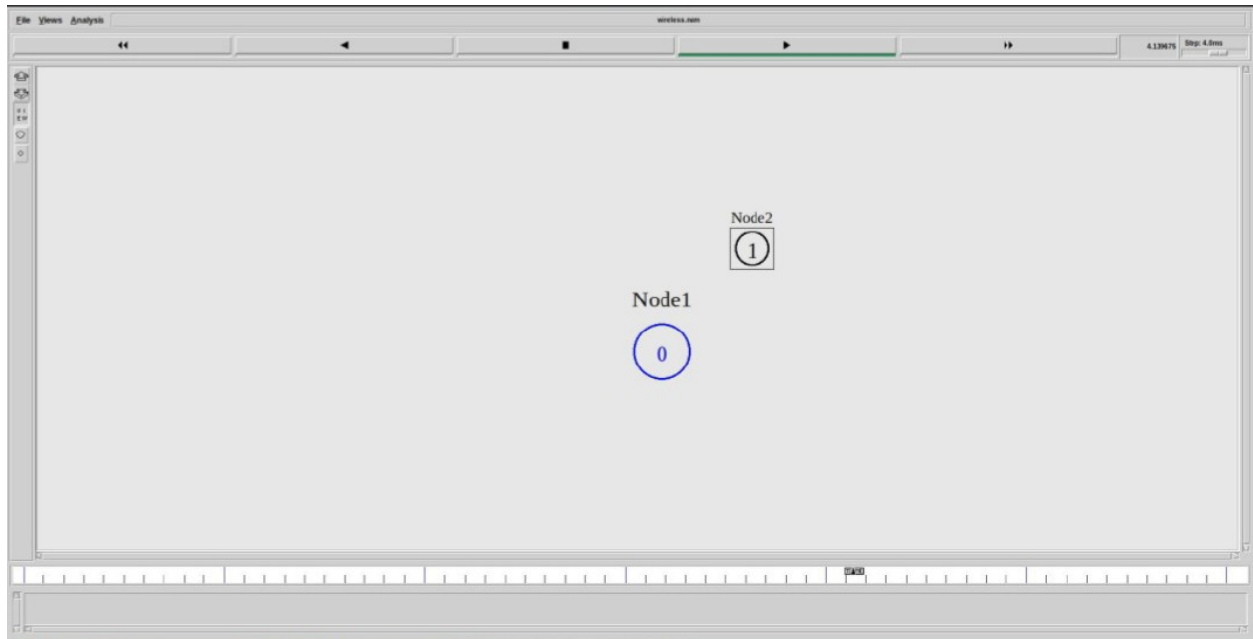Name: Alok Bhawankar

Roll No.: PA06

Lab Assignment 2

Name: Alok Bhawankar

Roll No.: PA06

Name: Alok Bhawankar

Roll No.: PA06

wireless.tcl

```
set val(chan)
Channel/WirelessChannel
;# channel type
set val(prop)
Propagation/TwoRayGround
;# radio-propagation
model set val(netif)
Phy/WirelessPhy ;
# network interface
type 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)
```

Name: Alok Bhawankar

Roll No.: PA06

```
Antenna/OmniAntenna ;
# antenna model
set val(ifqlen)
50 ;#
max packet in ifq
set val(nn)
2 ;#
number of mobilenodes
set val(rp)
DSDV ;#
routing protocol
# Main Program
# Initialize
Global Variables
#
set ns_ [new
Simulator]
set tracefd [open
simple.tr w]
$ns_ trace-all $tracefd
# set up topography object
```

Name: Alok Bhawankar

Roll No.: PA06

```
set topo [new
Topography]
$topo load_flatgrid 500
500 #
# Create God
#
create-god $val(nn)
#
# Create the specified
number of mobilenodes
[$val(nn)] and "attach"
them
# to the channel.
# Here two nodes are
created : node(0) and
node(1)
# configure node
$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) \
-channelType $val(chan) \
-topoInstance $topo \
-agentTrace
ON \
-routerTrace ON \
-macTrace
OFF \
-movementTrace OFF
for {set i 0} {$i <
```

Name: Alok Bhawankar

Roll No.: PA06

```
$val(nn) } {incr i} {

set node_($i)

[$ns_ node]

$node_($i)

random-motion 0 ;#

disable random motion

}

#

# Provide initial (X,Y,

for now Z=0) co-ordinates

for mobilenodes

#

$node_(0) set X_ 5.0

$node_(0) set Y_ 2.0

$node_(0) set Z_ 0.0

$node_(1) set X_ 390.0

$node_(1) set Y_ 385.0

$node_(1) set Z_ 0.0

#

# Now produce some simple

node movements
```

Name: Alok Bhawankar

Roll No.: PA06

```
# Node_(1) starts to move
towards node_(0)
#
$ns_ at 50.0 "$node_(1)
setdest 25.0 20.0 15.0"
$ns_ at 10.0 "$node_(0)
setdest 20.0 18.0 1.0"
# Node_(1) then starts to
move away from node_(0)
$ns_ at 100.0 "$node_(1)
setdest 490.0 480.0 15.0"
# Setup traffic flow
between nodes
# TCP connections between
node_(0) and node_(1)
set tcp [new Agent/TCP]
$tcp set class_ 2 set
sink [new
Agent/TCPSink]
$ns_ attach-agent $node_(0)
$tcp
```

```
$ns_ attach-agent $node_(1)
$sink
$ns_ connect $tcp $sink
set ftp [new
Application/FTP]
$ftp attach-agent $tcp
$ns_ at 10.0 "$ftp start"
#
# Tell nodes when the
simulation ends
#
for {set i 0} {$i <
$val(nn) } {incr i} {
$ns_ at 150.0
"$node_($i) reset";
}
$ns_ at 150.0 "stop"
$ns_ at 150.01 "puts \"NS
EXITING...\" ; $ns_ halt"
proc stop {} {
global ns_ tracefd
```

```
$ns_ flush-trace
close $tracefd
}
puts "Starting
Simulation..."
$ns_ run
```

wireless.nam

```
n -t * -s 0 -x 200 -y 100 -Z 0 -z 50 -v circle -c black
n -t * -s 1 -x 200 -y 300 -Z 0 -z 30 -v circle -c black
V -t * -v 1.0a5 -a 0
W -t * -x 500 -y 400
A -t * -n 1 -p 0 -o 0x7fffffff -c 30 -a 1
A -t * -h 1 -m 1073741823 -s 0
n -t 1 -s 0 -S DLABEL -l "Node1" -L ""
n -t 2 -s 1 -S DLABEL -l "Node2" -L ""
n -t 4 -s 0 -S COLOR -c blue -o black -i blue -I black
n -t 5 -s 1 -S COLOR -c red -o black -i red -I black
```

Name: Alok Bhawankar

Roll No.: PA06

n -t 6.000000 -s 0 -x 200.000000 -y 100.000000 -U 19.259858 -V

15.939193 -T 15.057224

_____

wireless.tr

M 6.00000 0 (200.00, 100.00, 0.00), (490.00, 340.00), 25.00