**#create Simulator class** set ns [new Simulator]

**#open trace file**

set nt [open lab42.tr w]

$ns trace-all $nt

**#create Topography object** set topo [new Topography]

#define grid size

$topo load\_flatgrid 1000 1000

**#open namtrace file**

set nf [open lab42.nam w]

$ns namtrace-all-wireless $nf 1000 1000

**#specify node configuration**

$ns node-config -adhocRouting DSDV \

-llType LL \

-macType Mac/802\_11 \

-ifqType Queue/DropTail \

-ifqLen 20 \

-phyType Phy/WirelessPhy \

-channelType Channel/WirelessChannel \

-propType Propagation/TwoRayGround \

-antType Antenna/OmniAntenna \

-topoInstance $topo \

-agentTrace ON \

-routerTrace ON

**#create General Operation Director(god) object that stores total number of mobile nodes.**

create-god 4

**#create nodes and label them** set n0 [$ns node]

set n1 [$ns node] set n2 [$ns node] set n3 [$ns node]

$n0 label "tcp0"

$n1 label "sink0"

$n2 label "bs1"

$n3 label "bs2"

**#give initial x, y, z coordinates to nodes**

$n0 set X\_ 110

$n0 set Y\_ 500

$n0 set Z\_ 0

$n1 set X\_ 600

$n1 set Y\_ 500

$n1 set Z\_ 0

$n2 set X\_ 300

$n2 set Y\_ 500

$n2 set Z\_ 0

$n3 set X\_ 450

$n3 set Y\_ 500

$n3 set Z\_ 0

$ns attach-agent $n0 $tcp0

set ftp0 [new Application/FTP]

$ftp0 attach-agent $tcp0

set sink1 [new Agent/TCPSink]

$ns attach-agent $n1 $sink1

$ns connect $tcp0 $sink1

**#attach agent and application to nodes and connect them**

set tcp0 [new Agent/TCP]

**#schedule the event**

$ns at 0.5 "$ftp0 start"

**#set up destination for mobile nodes. They move to <x><y> coordinates at <s>m/s.**

$ns at 0.3 "$n0 setdest 110 500 10"

$ns at 0.3 "$n1 setdest 600 500 20"

$ns at 0.3 "$n2 setdest 300 500 30"

$ns at 0.3 "$n3 setdest 450 500 30"

$ns at 10.0 "$n0 setdest 100 550 5"

$ns at 10.0 "$n1 setdest 630 450 5"

$ns at 70.0 "$n0 setdest 170 680 5"

$ns at 70.0 "$n1 setdest 580 380 5"

$ns at 120.0 "$n0 setdest 140 720 5"

$ns at 135.0 "$n0 setdest 110 600 5"

$ns at 140.0 "$n1 setdest 600 550 5"

$ns at 155.0 "$n0 setdest 89 500 5"

$ns at 190.0 "$n0 setdest 100 440 5"

$ns at 210.0 "$n1 setdest 700 600 5"

$ns at 240.0 "$n1 setdest 650 500 5"

proc finish { } {

global ns nt nf

$ns flush-trace

exec nam lab42.nam & close $nt

close $nf exit 0 }

$ns at 400 "finish"

$ns run

**Awk file-**

BEGIN{

PktsSent=0; PktsRcvd=0; PktsAtRTR=0; }

{ if(($1=="s")&&($4=="RTR")&&($7=="tcp")) PktsAtRTR++;

if(($1=="s")&&($4=="AGT")&&($7=="tcp")) PktsSent++;

if(($1=="r")&&($4=="AGT")&&($7=="tcp")) PktsRcvd++; }

END{

print " Number of Packets Sent :" PktsSent

print " Number of Packets Received :" PktsRcvd

print " Pacjet Delivery Ratio :" PktsRcvd/PktsSent\*100 print " Routing Load :" PktsAtRTR/PktsRcvd }

**Output-**

**$ns pgm6.tcl**

**$awk -f count.awk lab42.tr** Number of Packets Sent :6819

Number of Packets Received :6685 Packet Delivery Ratio :98.0349 Routing Load :1.02004