set ns [new Simulator -multicast on]

#$ns multicast

#Turn on Tracing

set tf [open mcast.tr w]

$ns trace-all $tf

# Turn on nam Tracing

set fd [open mcast.nam w]

$ns namtrace-all $fd

# Create 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]

set n7 [$ns node]

# Create links

$ns duplex-link $n0 $n2 1.5Mb 10ms DropTail

$ns duplex-link $n1 $n2 1.5Mb 10ms DropTail

$ns duplex-link $n2 $n3 1.5Mb 10ms DropTail

$ns duplex-link $n3 $n4 1.5Mb 10ms DropTail

$ns duplex-link $n3 $n7 1.5Mb 10ms DropTail

$ns duplex-link $n4 $n5 1.5Mb 10ms DropTail

$ns duplex-link $n4 $n6 1.5Mb 10ms DropTail

# Routing protocol: say distance vector

#Protocols: CtrMcast, DM, ST, BST

set mproto DM

set mrthandle [$ns mrtproto $mproto {}]

# Allocate group addresses

set group1 [Node allocaddr]

set group2 [Node allocaddr]

# UDP Transport agent for the traffic source

set udp0 [new Agent/UDP]

$ns attach-agent $n0 $udp0$udp0 set dst\_addr\_ $group1

$udp0 set dst\_port\_ 0

set cbr1 [new Application/Traffic/CBR]

$cbr1 attach-agent $udp0

# Transport agent for the traffic source

set udp1 [new Agent/UDP]

$ns attach-agent $n1 $udp1

$udp1 set dst\_addr\_ $group2

$udp1 set dst\_port\_ 0

set cbr2 [new Application/Traffic/CBR]

$cbr2 attach-agent $udp1

# Create receiver

set rcvr1 [new Agent/Null]

$ns attach-agent $n5 $rcvr1

$ns at 1.0 "$n5 join-group $rcvr1 $group1"

set rcvr2 [new Agent/Null]

$ns attach-agent $n6 $rcvr2

$ns at 1.5 "$n6 join-group $rcvr2 $group1"

set rcvr3 [new Agent/Null]

$ns attach-agent $n7 $rcvr3

$ns at 2.0 "$n7 join-group $rcvr3 $group1"

set rcvr4 [new Agent/Null]

$ns attach-agent $n5 $rcvr1

$ns at 2.5 "$n5 join-group $rcvr4 $group2"

set rcvr5 [new Agent/Null]

$ns attach-agent $n6 $rcvr2

$ns at 3.0 "$n6 join-group $rcvr5 $group2"

set rcvr6 [new Agent/Null]

$ns attach-agent $n7 $rcvr3

$ns at 3.5 "$n7 join-group $rcvr6 $group2"

$ns at 4.0 "$n5 leave-group $rcvr1 $group1"

$ns at 4.5 "$n6 leave-group $rcvr2 $group1"

$ns at 5.0 "$n7 leave-group $rcvr3 $group1"

$ns at 5.5 "$n5 leave-group $rcvr4 $group2"

$ns at 6.0 "$n6 leave-group $rcvr5 $group2"

$ns at 6.5 "$n7 leave-group $rcvr6 $group2"# Schedule events

$ns at 0.5 "$cbr1 start"

$ns at 9.5 "$cbr1 stop"

$ns at 0.5 "$cbr2 start"

$ns at 9.5 "$cbr2 stop"

$ns at 10.0 "finish"

proc finish {} {

global ns tf fd

$ns flush-trace

close $tf

close $fd

exec nam mcast.nam &

exit 0

}

# For nam

# Group 0 source

#$udp0 set fid\_ 1

#$n0 color red

$n0 label "Source 1"

# Group 1 source

#$udp1 set fid\_ 2

#$n1 color green

$n1 label "Source 2"

#Colors for packets from two mcast groups

$ns color 1 red

$ns color 2 green

$n5 label "Receiver 1"

$n5 color blue

$n6 label "Receiver 2"

$n6 color blue

$n7 label "Receiver 3"

$n7 color blue