#create simulator object

set ns [new Simulator]

#define different colors for data flow

$ns color 1 blue

$ns color 2 red

#open event trace file

set file1 [open out.tr w]

$ns trace-all $file1

#open nam trace file

set file2 [open out.nam w]

$ns namtrace-all $file2

#define finish procedure

proc finish {} {

global ns file1 file2

$ns flush-trace

close $file1

close $file2

exec nam out.nam &

exit 0}

#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]

set n8 [$ns node]

#lable the nodes 0 and 1

#$ns at 0.1"$n1 lable\"CBR\""

#$ns at 1.0"$n0 lable\"FTP\""

#create links between nodes

$ns duplex-link $n0 $n2 2Mb 10ms DropTail

$ns duplex-link $n1 $n2 2Mb 10ms DropTail

$ns duplex-link $n2 $n6 0.3Mb 100ms DropTail

$ns duplex-link $n6 $n7 0.3Mb 100ms DropTail

$ns duplex-link $n7 $n3 0.3Mb 100ms DropTail

$ns duplex-link $n2 $n8 0.3Mb 100ms DropTail

$ns duplex-link $n3 $n8 0.3Mb 100ms DropTail

$ns duplex-link $n3 $n4 0.5Mb 30ms DropTail

$ns duplex-link $n3 $n5 0.5Mb 30ms DropTail

#give node position

$ns duplex-link-op $n1 $n2 orient right-down

$ns duplex-link-op $n0 $n2 orient right-up

$ns duplex-link-op $n2 $n6 orient right

$ns duplex-link-op $n2 $n8 orient right-up

$ns duplex-link-op $n8 $n3 orient right-up

$ns duplex-link-op $n6 $n7 orient right

$ns duplex-link-op $n7 $n3 orient right

$ns duplex-link-op $n3 $n4 orient right-up

$ns duplex-link-op $n3 $n5 orient right-down

#set Queue size of link (n2-n3)

#$ns queue-limit $n2 $n3 40

#setup tcp connection

set tcp [new Agent/TCP]

$ns attach-agent $n0 $tcp

set sink [new Agent/TCPSink]

$ns attach-agent $n4 $sink

$ns connect $tcp $sink

$tcp set fid\_ 1

$tcp set window\_ 8000

$tcp set packetSize\_ 552

#setup a FTP over TCP connection

set ftp [new Application/FTP]

$ftp attach-agent $tcp

#$ftpsettype\_FTP

#setup UDP connection

set udp [new Agent/UDP]

$ns attach-agent $n1 $udp

set null [new Agent/Null]

$ns attach-agent $n5 $null

$ns connect $udp $null

$udp set fid\_ 2

#setup a CBR over UDP connection

set cbr [new Application/Traffic/CBR]

$cbr attach-agent $udp

#$cbrsettype\_CBR

$cbr set packetSize\_ 1000

$cbr set rate\_ 0.01Mb

#scheduling the events

$ns at 0.1 "$cbr start"

$ns at 1.0 "$ftp start"

$ns at 624.0 "$ftp stop "

$ns at 624.5 "$cbr stop"

#call finish procedure

$ns at 625.0 "finish"

#run simulation

$ns run