TERM 1 CN

```
set val(stop) 10.0;
set ns [new Simulator]
$ns color 1 blue
$ns color 2 red
set tracefile [open p1.tr w]
$ns trace-all $tracefile
set namfile [open p1.nam w]
$ns namtrace-all $namfile
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]
#assign labels to nodes
$n0 label "TCP-source"
$n1 label "UDP-source"
$n2 label "UDP-destination"
$n3 label "TCP-destination"
$n4 label "Router"
#assign shapes to nodes
$n0 shape square
$n1 shape "square"
$n2 shape "hexagon"
$n3 shape "hexagon"
$n4 shape "circle"
#assign color to nodes
$n0 color green
$n1 color green
$n2 color red
$n3 color red
$n4 color black
#commands to stablish links between nodes
$ns duplex-link $n0 $n4 100.0Mb 40ms DropTail
$ns queue-limit $n0 $n4 5
$ns duplex-link $n4 $n3 100.0Mb 40ms DropTail
$ns queue-limit $n4 $n3 5
$ns duplex-link $n1 $n4 100.0Mb 40ms DropTail
$ns queue-limit $n1 $n4 5
$ns duplex-link $n4 $n2 100.0Mb 40ms DropTail
$ns queue-limit $n4 $n2 5
$ns duplex-link-op $n4 $n2 queuePos 0.5
$ns duplex-link-op $n4 $n2 queuePos 0.5
#assigning orientation
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```
$ns duplex-link-op $n4 $n0 orient left-down
$ns duplex-link-op $n1 $n4 orient left-up
$ns duplex-link-op $n3 $n4 orient left-down
$ns duplex-link-op $n2 $n4 orient right-down
#attaching agent
set tcp0 [new Agent/TCP]
$ns attach-agent $n0 $tcp0
set sink3 [new Agent/TCPSink]
$ns attach-agent $n3 $sink3
$ns connect $tcp0 $sink3
$tcp0 set packetSize_ 1000
set udp1 [new Agent/UDP]
$ns attach-agent $n1 $udp1
set null2 [new Agent/Null]
$ns attach-agent $n2 $null2
$ns connect $udp1 $null2
$udp1 set packetSize_ 1000
$tcp0 set fid_ 1
$udp1 set fid_ 2
set cbr0 [new Application/Traffic/CBR]
$cbr0 attach-agent $tcp0
$cbr0 set packetSize_ 1000
$cbr0 set rate_ 3.0Mb
$cbr0 set random_ null
$ns at 0.01 "$cbr0 start"
$ns at 0.99 "$cbr0 stop"
set cbr1 [new Application/Traffic/CBR]
$cbr1 attach-agent $udp1
$cbr1 set packetSize_ 1000
$cbr1 set rate_ 3.0Mb
$cbr1 set random_ null
$ns at 0.1 "$cbr1 start"
$ns at 9.0 "$cbr1 stop"
proc finish {} {
        global ns tracefile namfile
        $ns flush-trace
        close $tracefile
        close $namfile
        exec nam p1.nam
        exit 0
}
$ns at $val(stop) "finish"
$ns run
```