set ns [new Simulator]

$ns color 1 Blue

# set nam output file

set nf [open out.nam w]

$ns namtrace-all $nf

# destructor

proc finish {} {

global ns nf

$ns flush-trace

close $nf

exec nam out.nam &

exit 0

}

# create two new nodes and create labels for them

set n0 [$ns node]

set n1 [$ns node]

$ns at 0.0 "$n0 label \" Sender \" "

$ns at 0.0 "$n1 label \"Receiver\" "

# set up a new duplex link

$ns duplex-link $n0 $n1 1Mb 200ms DropTail

$ns duplex-link-op $n0 $n1 orient right

# create a new TCP agent

set tcp [new Agent/TCP]

# attach the agent to first node

$ns attach-agent $n0 $tcp

$tcp set fid\_ 1

$tcp set window\_ 1

$tcp set maxcwnd\_ 1

$ns add-agent-trace $tcp tcp

$ns monitor-agent-trace $tcp

set tcpsink [new Agent/TCPSink]

$ns attach-agent $n1 $tcpsink

$ns connect $tcp $tcpsink

set ftp [new Application/FTP]

$ftp attach-agent $tcp

$ns at 0.5 "$ftp start"

$ns at 3.0 "$ns detach-agent $n0 $tcp ; $ns detach-agent $n1 $tcpsink "

$ns at 1.0 "$ns trace-annotate \"send packet 1\""

$ns at 1.4 "$ns trace-annotate \"recieve ack 1\""

$ns at 2.0 "$ns trace-annotate \"send packet 2\""

$ns at 2.5 "$ns trace-annotate \"receive ack 2\""

$ns at 3.2 "$ns trace-annotate \"send packet 3\""

$ns at 3.5 "$ns trace-annotate \"receive ack 3\""

$ns at 3.8 "$ns trace-annotate \"send packet 4\""

$ns at 4.0 "finish"

$ns run

