

NAME : CHENNAMSETTI GOPINATH
REG NO :124003069
CN LAB 10

ETHERNET

Ethernetlan.tcl

```
set ns [new Simulator]
```

```
#open the NAM trace file
```

```
set nf [open Ethernet.nam w]  
$ns namtrace-all $nf
```

```
#open the trace file  
set nd [open Ethernet.tr w]  
$ns trace-all $nd
```

```
#define a finish procedure  
proc finish {} {  
    global ns nf nd  
    $ns flush-trace  
    close $nf  
    close $nd  
    exec nam prog.nam &  
    exit 0  
}
```

```
#create 6 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]
```

```
#create link between the nodes
# $ns make-lan &quot;
# $n0 $n1 $n2 $n3 $n4 $n5 $n6&quot;
# 0.2Mb 40ms LL Queue/DropTail
```

```
$ns duplex-link $n0 $n2 5Mb 2ms DropTail Mac/802_3
$ns duplex-link $n1 $n2 10Mb 5ms DropTail Mac/802_3
$ns duplex-link $n2 $n3 4Mb 3ms DropTail Mac/802_3
$ns duplex-link $n3 $n4 100Mb 2ms DropTail Mac/802_3
$ns duplex-link $n3 $n5 15Mb 4ms DropTail Mac/802_3
```

```
#setup a tcp connection
```

```
set tcp [new Agent/TCP]
$ns attach-agent $n0 $tcp
set sink [new Agent/TCPSink]
$ns attach-agent $n5 $sink
$ns connect $tcp $sink
```

```
#setup a FTP over a tcp connection
```

```
set ftp [new Application/FTP]
$ftp attach-agent $tcp
```

```
$ns at 0.1 "$ftp start"
$ns at 2.0 "$ftp stop"
$ns at 2.1 "finish"
```

```
$ns run
```

Ethernetanalysis.awk

```
BEGIN {
rec= 0
drp=0
tot=0
rat=0.0
sum1=0

throughput1=0.0
}

{
if($1== "r" && $4== 5)
{

rec++;
}

if($1== "d" && $4 ==5 )

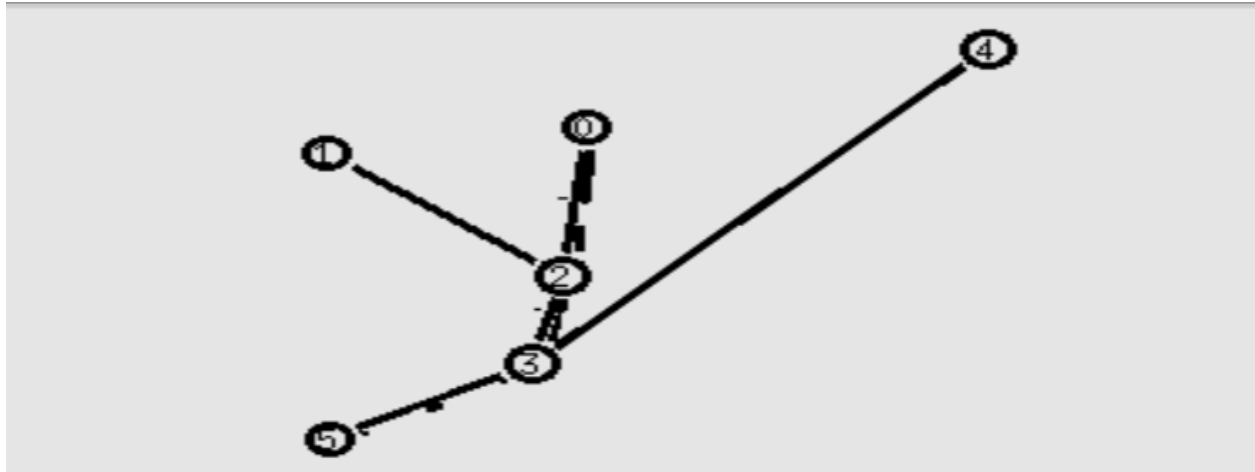
{
drp++;

}

if($2<1.00 && $4==5)
```

```
{  
  
sum1=sum1+$6;  
  
}  
  
}  
  
END {  
  
tot = rec + drp  
rat = (rec/tot) *100  
  
throughput1=(sum1*8)/1000000  
printf(" \n Packets received %d ", rec)  
printf(" \nPackets dropped %d ", drp)  
printf("\n Packets delivery ratio %f",rat)  
  
printf("\n Throughput for tcp is %f",throughput1)  
}
```

OUTPUT



```
Packets received 897  
Packets dropped 0  
Packets delivery ratio 100.0000  
Throughput for tcp is 10.018240
```