

LAB-1: NS-2

Tcl code:

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

```
set ta [open out.tr w]
```

```
$ns trace-all $ta
```

```
set nf [open out.nam w]
```

```
$ns namtrace-all $nf
```

```
proc finish {} {  
    global ns nf ta  
    $ns flush-trace  
    #Close the NAM trace file  
    close $ta  
    close $nf  
    #Execute NAM on the trace file  
    exec nam out.nam &  
    exit 0  
}
```

```
set n0 [$ns node]
```

```
set n1 [$ns node]
```

```
set n2 [$ns node]
```

```
$ns duplex-link $n0 $n1 5Mb 2ms DropTail
```

```
$ns duplex-link $n0 $n2 10Mb 3ms DropTail
```

```
$ns queue-limit $n0 $n1 2
```

```
#tcp connection from n0 to n1
```

```
set tcp [new Agent/TCP]
```

```
$ns attach-agent $n0 $tcp
```

```
set sink [new Agent/TCPSink]
```

```
$ns attach-agent $n1 $sink
```

```
$ns connect $tcp $sink
```

```
#ftp over tcp
```

```
set ftp [new Application/FTP]
```

```
$ftp attach-agent $tcp
```

```
$ftp set type_ FTP
```

\$ns at 0.4 "\$ftp start"

\$ns at 3.4 "\$ftp stop"

\$ns at 4.0 "finish"

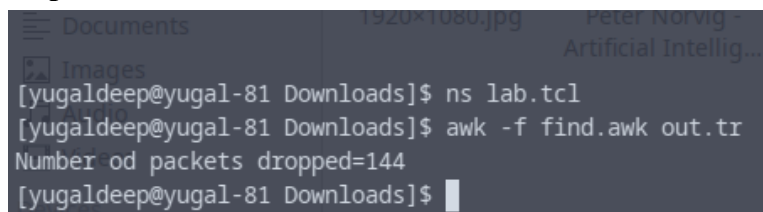
\$ns run

Awk script code:

```
{
    if($1 == "d")
    {
        drop++;
    }
}

END{
    print "Number of packets dropped=" drop
}
```

Output:



A terminal window screenshot showing the execution of a network simulation. The prompt is [yugaldeep@yugal-81 Downloads]. The user enters 'ns lab.tcl'. The prompt changes to [yugaldeep@yugal-81 Downloads]\$ and the user enters 'awk -f find.awk out.tr'. The output is 'Number of packets dropped=144'. The prompt returns to [yugaldeep@yugal-81 Downloads]\$.

```
[yugaldeep@yugal-81 Downloads]$ ns lab.tcl
[yugaldeep@yugal-81 Downloads]$ awk -f find.awk out.tr
Number of packets dropped=144
[yugaldeep@yugal-81 Downloads]$
```