Aim:

To analyze the performance of tcp/udp networks.

Algorithm:

1. Declare one node with udp and cbr
2. Declare another node with tcp and cbr
3. Let node 3 be tcpsink and node 4 be null
4. We then send udp traffic from 1-4
5. We send tcp traffic from 2-3 and analyse the performance and bandwith and packet loss in case of udp

Code:

```
set ns [new Simulator]

set file_trace [open out.tr w]

$ns trace-all $file_trace


set nf [open out.nam w]

$ns namtrace-all $nf


set n1 [$ns node]

set n2 [$ns node]


set n3 [$ns node]

set mid [$ns node]


set n4 [$ns node]


proc finish {} {

        global ns nf file_trace

        $ns flush-trace

        close $nf

        close $file_trace

        exit 0

}

$ns  duplex-link $n1 $mid 10Mb 0ms DropTail
```

```
$ns  duplex-link $n2 $mid 1000Mb 0.1ms DropTail

$ns  duplex-link $n3 $mid 103Mb 10ms DropTail

$ns  duplex-link $n4 $mid 10Mb 10ms DropTail

set udp0 [new Agent/UDP]
$ns attach-agent $n1 $udp0
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 500
$cbr0 set interval_ 0.001
$cbr0 attach-agent $udp0
set null0 [new Agent/Null]
$ns attach-agent  $n4 $null0
$ns connect $udp0 $null0

set tcp0 [new Agent/TCP]
$ns attach-agent $n2 $tcp0
set cbr1 [new Application/Traffic/CBR]
$cbr1 set packetSize_ 500
$cbr1 set interval_ 0.001
$cbr1 attach-agent $tcp0
set tcpsink0 [new Agent/TCPSink]
$ns attach-agent $n3 $tcpsink0
$ns connect $tcp0 $tcpsink0

$tcp0 set fid_ 1
$udp0 set fid_ 2
 $ns color 1 Green
 $ns color 2 Blue
 $ns at 0.1 "$cbr0 start"
```

$ns at 2.5 "$cbr0 stop"

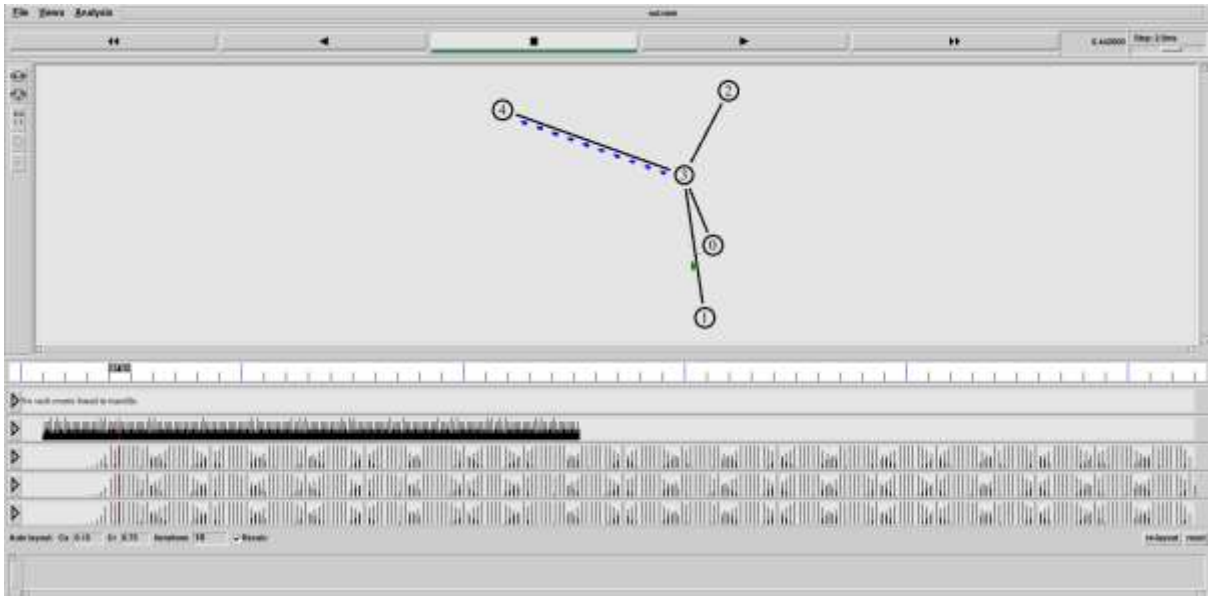
$ns at 0.3 "$cbr1 start"

$ns at 5.1 "$cbr1 stop"

$ns at 5.3 "finish"

$ns run

Output:



Result:

Thus the performance of udp/tcp networks were analyzed using a network simulator.