

Computer networks

lab 07

Question no.01:

```
puts "Enter a number greater than 4"
```

```
set num [gets stdin]
```

```
while {$num < 5} {
```

```
    puts "Number is not greater than 4"
```

```
    set num [gets stdin]
```

```
}
```

```
if {$num % 2 == 0} {
```

```
    for {set x 4} {$x <= $num} {incr x} {
```

```
        if {$x % 2 == 0} {
```

```
            puts "x : $x"
```

```
        }
```

```
    }
```

```
} else {
```

```
    for {set x 3} {$x <= $num} {incr x} {
```

```
        if {$x % 2 != 0} {
```

```
            puts "x : $x"
```

```
        }
```

```
    }
```

```
}
```

```
ifra@ifra-virtual-machine: ~/Desktop
ifra@ifra-virtual-machine:~$ cd Desktop/
ifra@ifra-virtual-machine:~/Desktop$ ns q1.tcl
Enter a number greater than 4
14
x : 4
x : 6
x : 8
x : 10
x : 12
x : 14
```

```
ifra@ifra-virtual-machine:~/Desktop$ ns q1.tcl
Enter a number greater than 4
15
x : 3
x : 5
x : 7
x : 9
x : 11
x : 13
x : 15
ifra@ifra-virtual-machine:~/Desktop$ ns q1.tcl
```

```
ifra@ifra-virtual-machine:~/Desktop$ ns q1.tcl
Enter a number greater than 4
2
Number is not greater than 4
1
Number is not greater than 4
0
Number is not greater than 4
6
x : 4
x : 6
ifra@ifra-virtual-machine:~/Desktop$
```

Question no.02:

set ns [new Simulator]

opennam file

set nf [open out.nam w]

\$ns namtrace-all \$nf

define a finish procedure

proc finish {} {

```
global ns nf
$ns flush-trace
close $nf
exec nam out.nam
exit 0
}
# creating nodes
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
#creating the links
$ns duplex-link $n0 $n2 2Mb 10ms DropTail
$ns duplex-link $n1 $n2 1.7Mb 20ms DropTail
$ns queue-limit $n2 $n3 10
#setting orientation
$ns duplex-link-op $n0 $n2 orient right-down
$ns duplex-link-op $n1 $n2 orient right_up
$ns duplex-link-op $n3 $n2 orient left
$ns duplex-link-op $n2 $n3 orient right
#Creating a TCP agent and connecting it to n1 (Basically it defines source node of TCP)
set tcp0 [new Agent/TCP]
$ns attach-agent $n1 $tcp0
#Creating a Sink Agent and attaching it to n3
set sink0 [new Agent/TCPSink]
$ns attach-agent $n3 $sink0
#Connecting TCP agent with Sink agent
$ns connect $tcp0 $sink0
set udp [new Agent/UDP]
$udp set fid_ 1
set null [new Agent/Null]
```

```
$ns attach-agent $n0 $udp
$ns attach-agent $n3 $null
$ns connect $udp $null
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 1000
$cbr0 set rate_ 100
$cbr0 attach-agent $udp0
set ftp0 [new Application/FTP]
$ftp0 attach-agent $tcp0
$ns at 0.5 "$ftp0 start"
$ns at 4.5 "$ftp0 stop"
$ns at 5.0 "finish"
$ns run
```