

# COMPUTER NETWORKS

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COMPUTER SCIENCE AND  
ENGINEERING

ID - 2022UCP1700  
SECTION- A4

# **ASSIGNMENT – 6**

# Pure Aloha

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

```
$ns rtproto DV
```

```
$ns macType Mac/Sat/UnslottedAloha
```

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

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

```
set fo [open pure_aloha.tr w]
```

```
$ns trace-all $fo
```

```
proc finish {} {
```

```
    global ns fo nf
```

```
    $ns flush-trace
```

```
    close $fo
```

```
    close $nf
```

```
    exec nam pure_aloha.nam &
```

```
    exit 0
```

```
}
```

```
set no [$ns node]
```

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

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

```
set n3 [$ns node]
```

```
set n4 [$ns node]
```

```
set n5 [$ns node]
```

```
$ns duplex-link $no $n4 1Mb 50ms DropTail
```

```
$ns duplex-link $n1 $n4 1Mb 50ms DropTail
```

```
$ns duplex-link $n2 $n5 1Mb 1ms DropTail
```

```
$ns duplex-link $n3 $n5 1Mb 1ms DropTail
```

```
$ns duplex-link $n4 $n5 1Mb 50ms DropTail
```

```
$ns duplex-link $n2 $n3 1Mb 50ms DropTail
```

```
$ns duplex-link-op $n4 $n5 queuePos 0.5
```

```
set udpo [new Agent/UDP]
```

```
$ns attach-agent $no $udpo
```

```
set cbro [new Application/Traffic/CBR]
```

```
$cbro set packetSize_ 500
```

```
$cbro set interval_ 0.005
```

```
$cbro attach-agent $udpo
```

```
set nullo [new Agent/Null]
```

```
$ns attach-agent $n2 $nullo
```

```
$ns connect $udpo $nullo
```

```
#Schedule events for the CBR agent and the network dynamics
```

```
$ns at 0.5 "$cbro start"
```

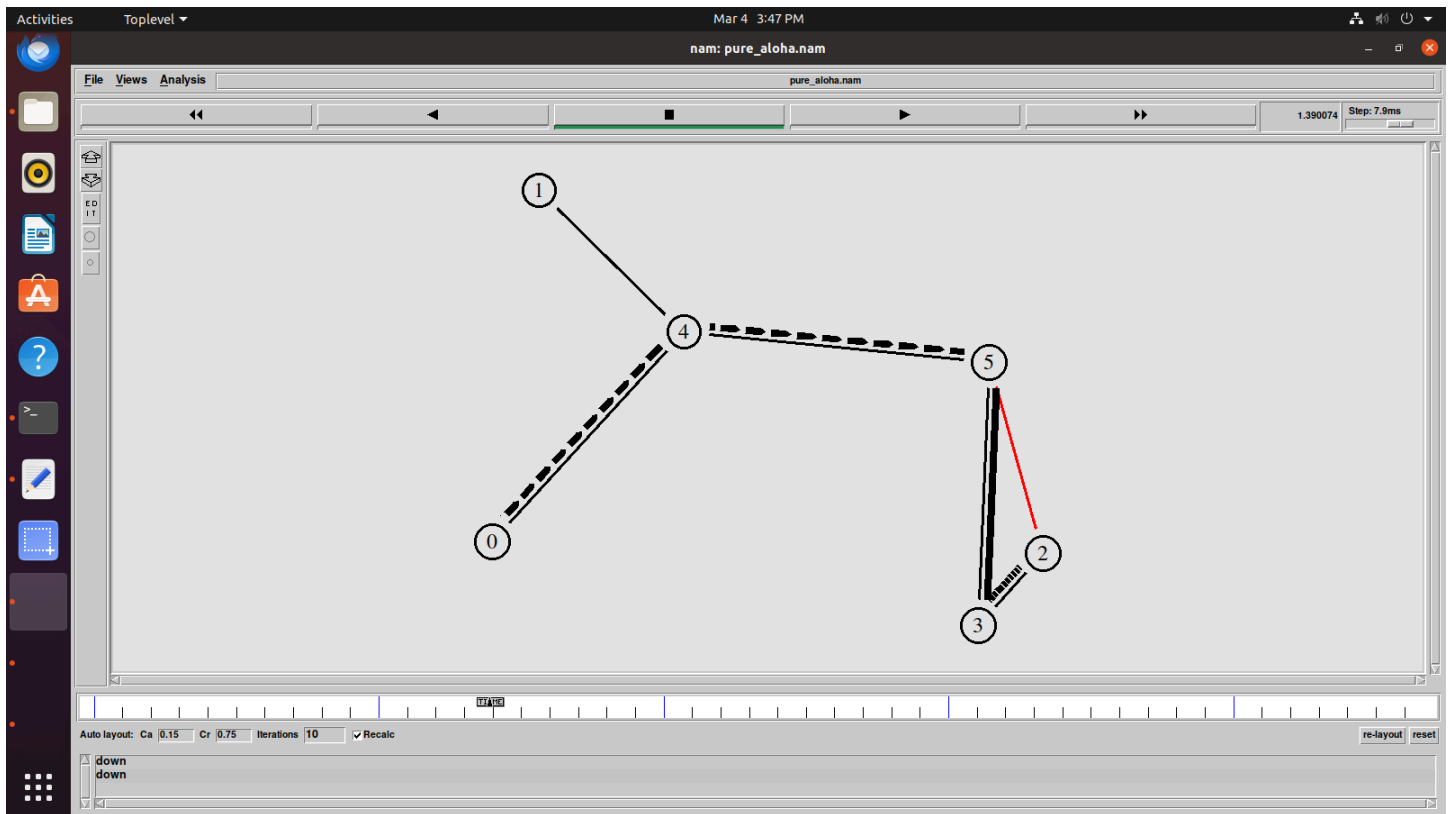
```
$ns rtmodel-at 1.0 down $n5 $n2
```

```
$ns rtmodel-at 2.0 up $n5 $n2
```

```
$ns at 4.5 "$cbro stop"
```

```
$ns at 5.0 "finish"
```

```
$ns run
```



## Slotted Aloha

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

```
$ns rtproto DV
```

```
$ns macType Mac/Sat/SlottedAloha
```

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

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

```
set fo [open slotted_aloha.tr w]
```

```
$ns trace-all $fo
```

```
proc finish {} {
    global ns fo nf
```

```

$ns flush-trace
close $fo
close $nf
exec nam slotted_aloha.nam &
exit 0
}

set no [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]
set n5 [$ns node]

$ns duplex-link $no $n4 1Mb 50ms DropTail
$ns duplex-link $n1 $n4 1Mb 50ms DropTail
$ns duplex-link $n2 $n5 1Mb 1ms DropTail
$ns duplex-link $n3 $n5 1Mb 1ms DropTail
$ns duplex-link $n4 $n5 1Mb 50ms DropTail
$ns duplex-link $n2 $n3 1Mb 50ms DropTail

$ns duplex-link-op $n4 $n5 queuePos 0.5

set udpo [new Agent/UDP]
$ns attach-agent $no $udpo

set cbro [new Application/Traffic/CBR]
$cbro set packetSize_ 500
$cbro set interval_ 0.5
$cbro attach-agent $udpo

set nullo [new Agent/Null]
$ns attach-agent $n2 $nullo

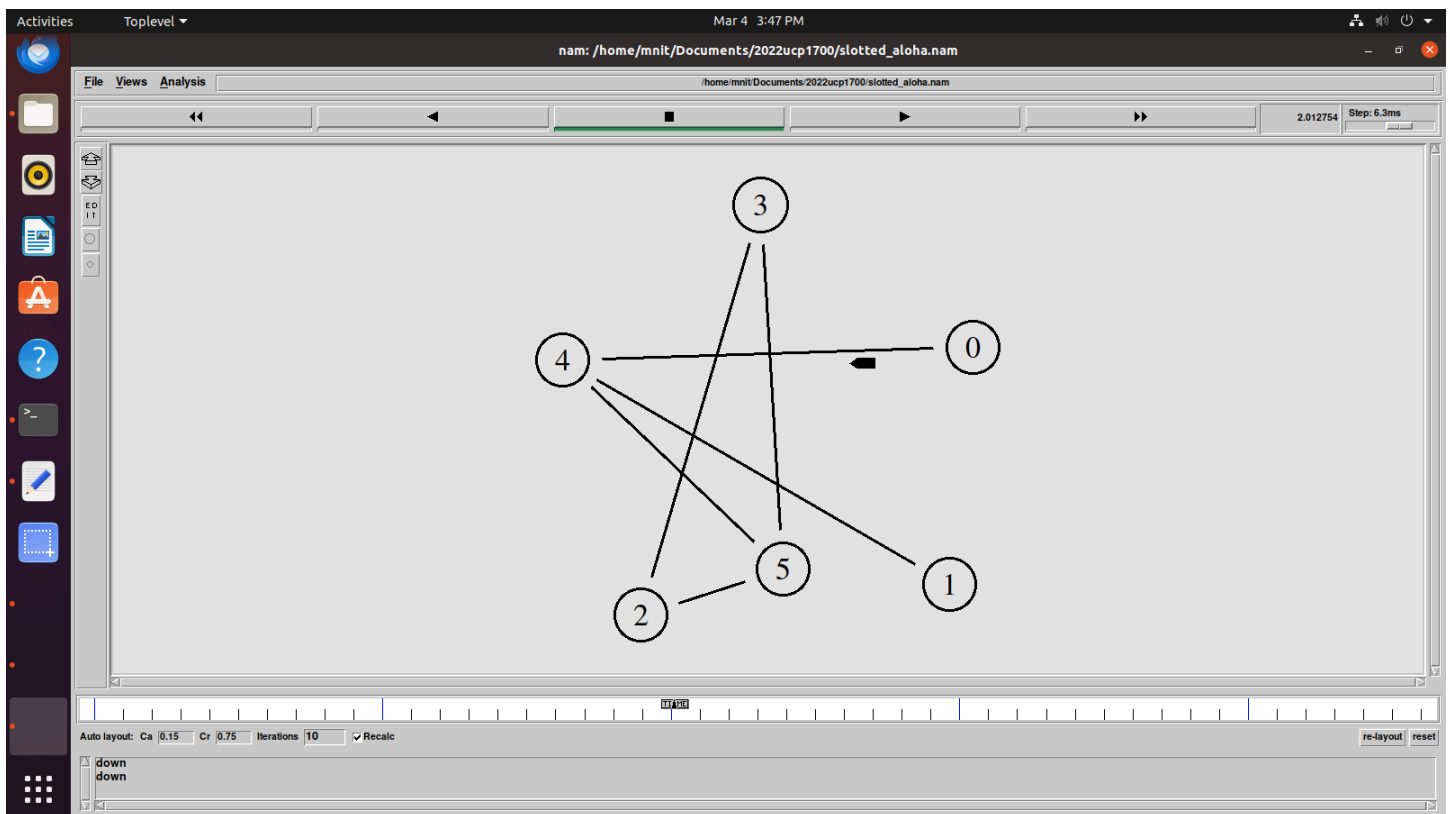
$ns connect $udpo $nullo

$ns at 0.5 "$cbro start"
$ns rtmodel-at 1.0 down $n5 $n2
$ns rtmodel-at 2.0 up $n5 $n2
$ns at 4.5 "$cbro stop"

$ns at 5.0 "finish"

$ns run

```



# THE END

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SECTION- D