#### VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama", Belgaum -590014, Karnataka.



#### LAB REPORT

on

### **COMPUTER NETWORKS**

Submitted by

**Gursimranjeet Singh(1BM22CS104)** 

in partial fulfillment for the award of the degree of
BACHELOR OF ENGINEERING

in
COMPUTER SCIENCE AND ENGINEERING



B.M.S. COLLEGE OF ENGINEERING
(Autonomous Institution under VTU)
BENGALURU-560019
Sep 2024-Jan 2025

#### B. M. S. College of Engineering,

**Bull Temple Road, Bangalore 560019** 

(Affiliated To Visvesvaraya Technological University, Belgaum)

#### **Department of Computer Science and Engineering**



#### **CERTIFICATE**

This is to certify that the Lab work entitled "COMPUTER NETWORKS" carried out by Gursimranjeet Singh(1BM22CS104), who is bonafide student of B. M. S. College of Engineering. It is in partial fulfillment for the award of Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belgaum during the year 2024-25. The Lab report has been approved as it satisfies the academic requirements in respect of Computer Networks Lab - (23CS5PCCON) work prescribed for the said degree.

Dr. Latha N.R.

Associate Professor, Department of CSE, BMSCE, Bengaluru Dr. Kavitha Sooda

Professor and Head, Department of CSE BMSCE, Bengaluru

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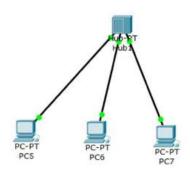
#### CYCLE-1

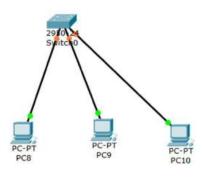
PROGRAM1: Create a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices and demonstrate ping message.

### **OBSERVATION**

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PC-PT BULLO PT PCO SOLVETO
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Sharvatura - forth broodenate parkets to all
TOTAL STEEL ALL OF COUNTY AS A SECOND
a PC and a server facilitating direct communication
Topology - A PC ia connected to kiner using a
COSSOVER effernet capte
IP addresses of PC 10.0.0.1, server -10.0.0.2
Observation - Direct connection collows PC to communicate
tobuch is typical on small networks for tasks such as
file sharing service requests or tating server
Hubard switch Hub and switch
Hubo Switch o
PC-PT PC-PT PG-PJ PET PS-PT PS-PT
100 · (C) A A A (D.O.O.) IN DAY 10-0 0.12
10.0.0.6 10.0.0.7 10.0.08 10.0.02

Aim - To create cample network consisting
of 28Cs connected to a central hub is
another network with Excs connected
to a switch. The connection will kelp
observe the behaviour of data francinision
asing hub and switch device Topology - 3PCs one connected to a hub and switch using straight - through Whernet cables Observation-flub broadcasts packets to all devices which may cause renecessary traffic switch forwards packets only to approprie device by learning MAC address, making it more efficient in reducing traffic ated in atmosper Mineral, Europe at Hubaid anited the and surted



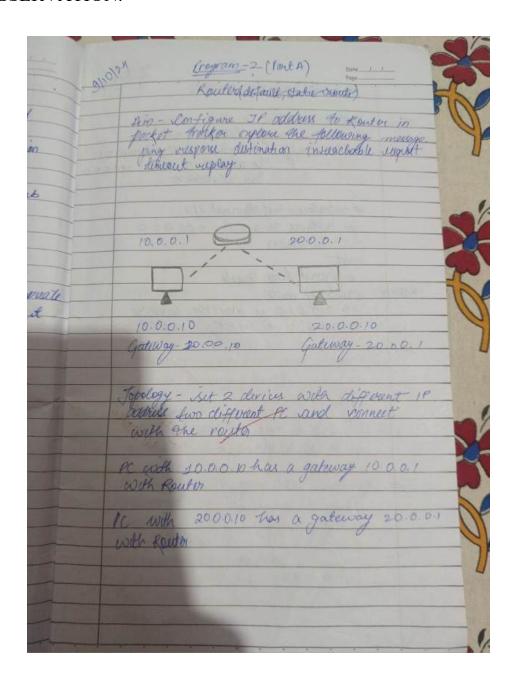


## OUTPUT:

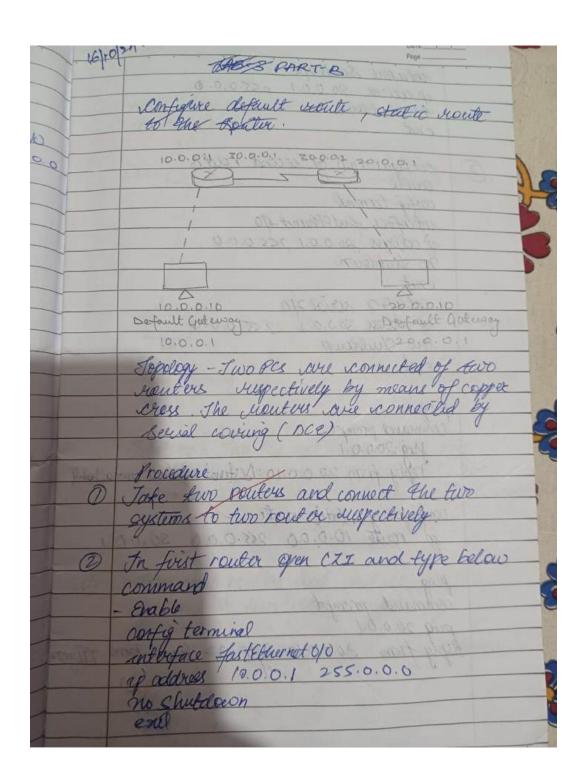
Pcs are connected

PROGRAM2: Configure IP address to routers in packet tracer. Explore the following messages: ping responses, destination unreachable, request timed out, reply

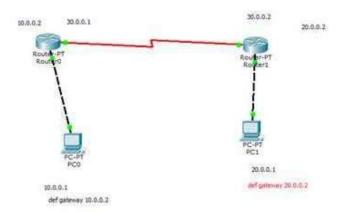
#### **OBSERVATION:**

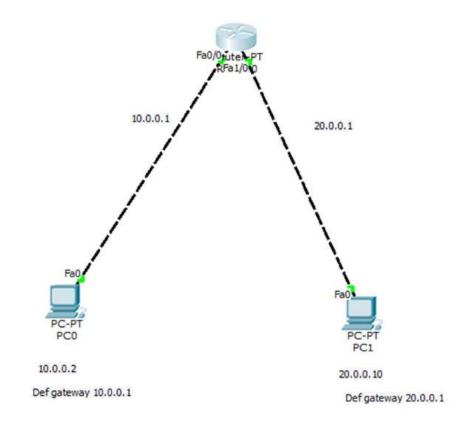


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Procedure	
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south config - antique 10,001 25000	-
of address to the	-
router enable crowler config bermand crowler config interface fast eshwent op ground in abbrece 10.0.0.1 256.0.0 no shutdown	-
# interface fast ellevenet 470	-
ip address 20.0.0.1 255.0.0.0	-
no shut down	+
The Shufaptori	+
Configured from console	-
Society character and contain	1
10.00 of 018 is directly connected	
Result show if route 10.0.0.0/8 is directly connected 20.0.0/8 is directly connected	
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no Shuddown
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configuration of second roudos
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config (amound 110
interface fastethernet 40
godines 20.0.0.1 755.0.0.0
no Shutdown
enit
interface serial 240
of oddres 30.0.0.2 255-0.0.0
no Shuldown
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command prompt
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reply from 20.0.0.10 : Destination hast currented
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configuring static route
go route 10.0.0.0 255.0.0.0 30.0.0.)
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ping
pag grander
ping 20.0.0.1
ping 20.0.0.1
Reply from 20.0.010 By 17 = 32 fine = bons The
The state of the s
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PC0
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Physical Config Desktop Custom Interface
 Command Prompt
                                                                                           X
  Pinging 20.0.0.10 with 32 bytes of data:
  Request timed out.
  Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
  Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
  Ping statistics for 20.0.0.10:
     Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
  Approximate round trip times in milli-seconds:
      Minimum = 0ms, Maximum = 0ms, Average = 0ms
  PC>ping 20.0.0.10
  Pinging 20.0.0.10 with 32 bytes of data:
  Reply from 20.0.0.10: bytes=32 time=0ms TTL=127
  Ping statistics for 20.0.0.10:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds:
      Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
PC>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Ping statistics for 10.0.0.2:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
   Minimum = 0ms, Maximum = 0ms, Average = 0ms
PC>ping 30.0.0.1
Pinging 30.0.0.1 with 32 bytes of data:
Reply from 30.0.0.1: bytes=32 time=0ms TTL=255
Ping statistics for 30.0.0.1:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
   Minimum = Oms, Maximum = Oms, Average = Oms
```

```
PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Reply from 10.0.0.2: Destination host unreachable.

Ping statistics for 20.0.0.1:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

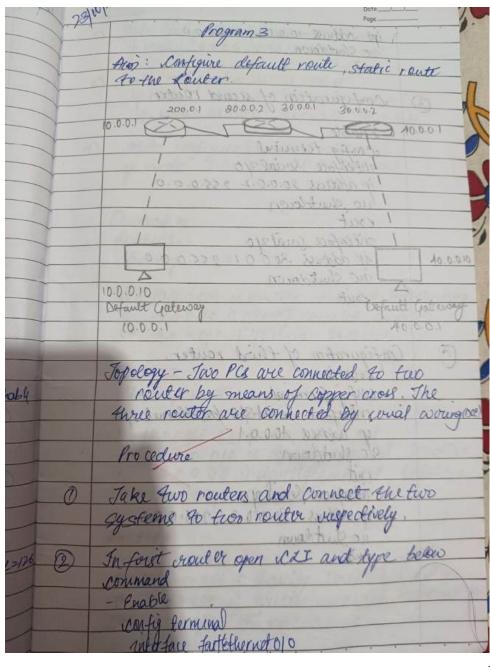
Ping statistics for 30.0.0.2:

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
```

### PROGRAM3: Configure default route, static route to the Router

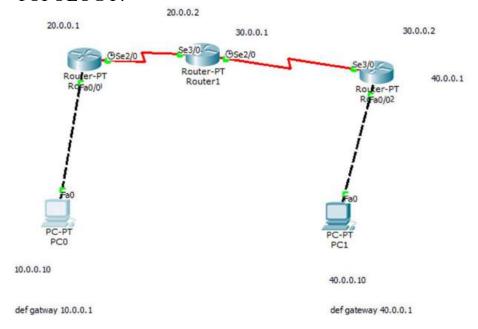
#### **OBSERVATION:**



	Do Par	te!
6	Static Configuration frist renter ip route 0.0.0.0 0.00.0 20.0.0.2	
6)	Static configuration second router ip route 10.0.0.0 255.0.0.0 20 14 route 40.0.0.0 255.0.0.0 30	
	ly route 10.0.0.0 25500.0 30	0.0.2
4)	Static imfiguration third router if route 0.0.0.0 0.0.0.0 30.0	.0./
	Observation	
	Routers.	
	Show if route.	
	C 10.0.0.0/8 is directly connected	, Fact Ethernet of o
	C 20.0.0.0/8 is directly connected,	Scrietyo
	C 10.0.0.0/8 is directly connected of 0.0.0.0/0 is directly connected of 0.0.0.0/0 C1/0J via 20.0.0	.2
	Router 2	
	Show ip route	W - 1
	S 10.0.0.98 [1/0] via 20.0.0.1	
+	C 20.0.0.018 is directly connect	id Serial 210
1	C 20.0.0.018 is directly connected 30.0.0.0/8 is directly connected S 40.0.00/8 (1/0) via 30.0.0.	2 2
	THE COMMENT AND THE PARK	
	Router 8	1
	c 30.0.0.0/8 is directly connect	d, Serial 30
	C 40.0.0.0/8 is directly connected	d PastEthernut/10
-	8 0.0.0.0/0 Cyol via 30.0.0.1	
1		* * *

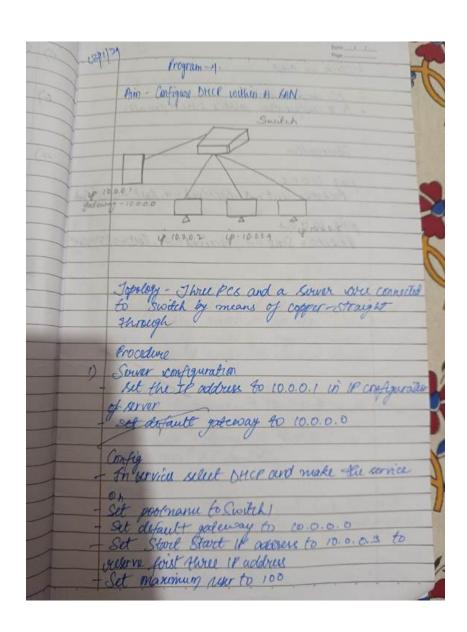
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	11 11 11 11 11 11 11 11 11 11 11 11 11	
1	ixt address 10.0.0.1 055.0.0.0	
9	no shutdown	5)
1 1	exit	
0	Deconfiguration of second router.	6
1	enable	
	iconfig terminal suferface Social 3/0 ip address 20.0.0.2 255.0.0.0	
	Interface Serial 3/0	*
	in address 20.0.0.2 255.0.0.0	
-	gio shutdown	
100	exit	
	enterface serial 2/0 if oddres 30.0.0.1 255.0.0.0	
	in address 30,0,0,1 256,0,0,0	-
	no Shutdown	-
	crit	-
	2700	-
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(A)	Configuration of third router	-
	Configuration of third router.	
1/13	config ferminal	-
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	y address AD.O.O.1	_
_	g address A0.0.0.	_
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	- prit	7
100	Interface Serial 210	TILL -
	ch oddays De d	-
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	ip addres 30.0.0.2 255.0.0.0  no Shutdown	1
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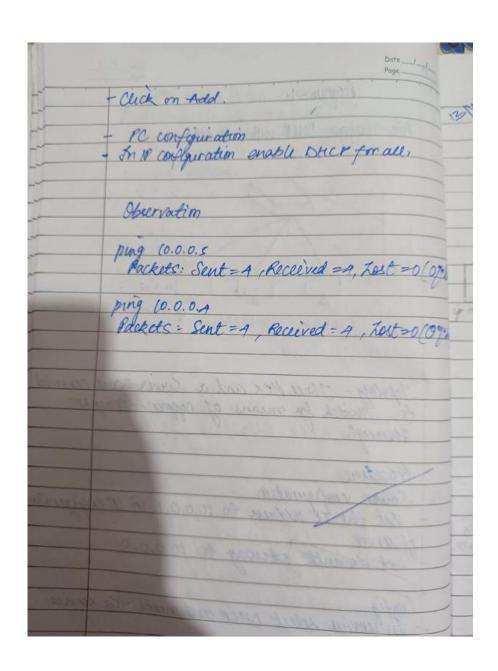
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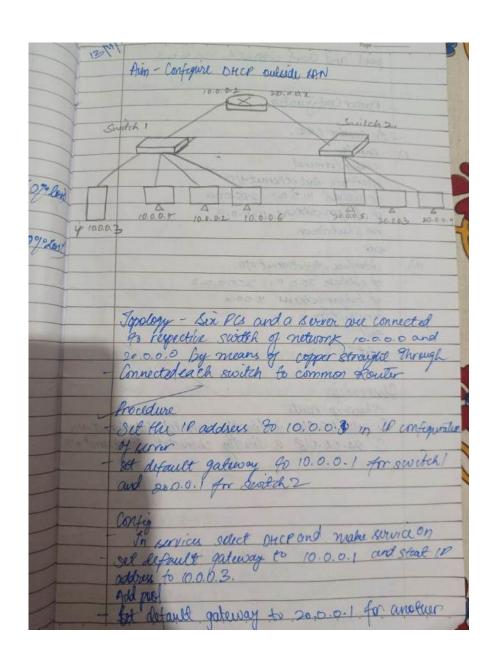


```
Packet Tracer PC Command Line 1.0
PC>ping 30.0.0.2
Pinging 30.0.0.2 with 32 bytes of data:
Reply from 30.0.0.2: bytes=32 time=6ms TTL=253
Reply from 30.0.0.2: bytes=32 time=7ms TTL=253
Reply from 30.0.0.2: bytes=32 time=8ms TTL=253
Reply from 30.0.0.2: bytes=32 time=7ms TTL=253
Ping statistics for 30.0.0.2:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 8ms, Average = 7ms
PC>ping 20.0.0.2
Pinging 20.0.0.2 with 32 bytes of data:
Reply from 20.0.0.2: bytes=32 time=5ms TTL=254
Reply from 20.0.0.2: bytes=32 time=3ms TTL=254
Reply from 20.0.0.2: bytes=32 time=3ms TTL=254
Reply from 20.0.0.2: bytes=32 time=3ms TTL=254
Ping statistics for 20.0.0.2:
   Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 3ms, Maximum = 5ms, Average = 3ms
PC>ping 40.0.0.1
Pinging 40.0.0.1 with 32 bytes of data:
Reply from 40.0.0.1: bytes=32 time=8ms TTL=253
Reply from 40.0.0.1: bytes=32 time=7ms TTL=253
Reply from 40.0.0.1: bytes=32 time=7ms TTL=253
Reply from 40.0.0.1: bytes=32 time=8ms TTL=253
Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 7ms, Maximum = 8ms, Average = 7ms
PC>
```

## PROGRAM4: Configure DHCP within a LAN and outside LAN. OBSERVATION:

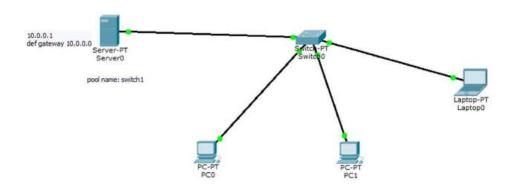




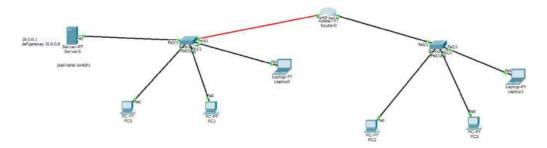


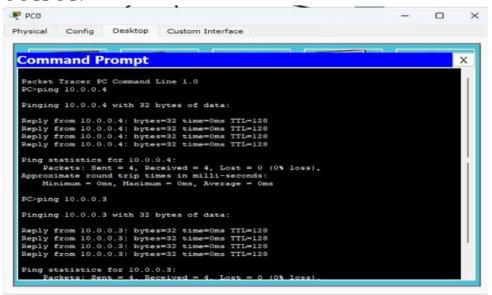
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	pool and start address to 20,0,0,3
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7	- Router Configuration.
7 0	- In Router CXI.
	enable -
1 - 1	and forming
	ip addus 10.0.0.1 255.000
\	in orthur 10.0.0.1 255.00.0
-	y helper-address 10.0.0.3
-	no Shutdown
	ex
2)	interface fastilisernet 0/0
	gi address 20.00.1 255.0.0.0
-	y helperadoleus 10.00.3
-	no Shutdown
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	Show ip route
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## TOPOLOGY: Within lan

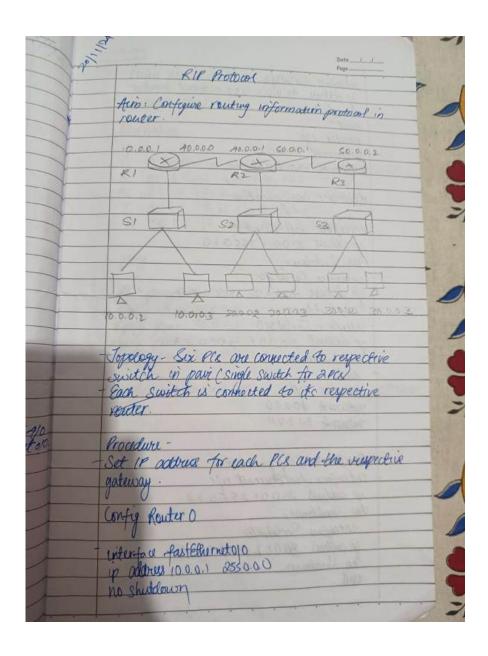


## Outside lan



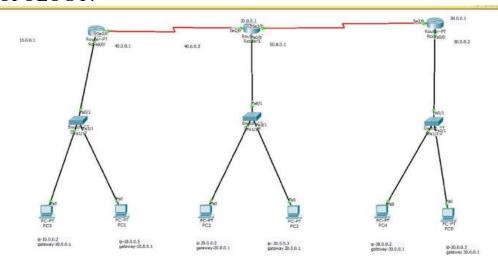


## PROGRAM5: Configure RIP routing Protocol in Routers OBSERVATION:



no shutdown.		Page 1997	
no shutdown:  exit  nouter 1/9  network 10.0.0.0  Router1 configuration  Router1 configuration  Router1 configuration  network 20.0.0. 255.0.0.0  no Shutdown:  interface fest ethernof 0/1  y address 40.0.0.2 266.0.0.0  no shutdown:  interface Serial 2/0  y address 50.0.0.1 255.0.0.0  no shutdown:  cold  router 1/9  notwork 50.0.0.0  Router 2 (onfiguration  cuturface fest ethernut 0/1  y address 50.0.0.1 255.0.0.0  no shutdown:  uturface fest ethernut 0/1  y address 50.0.0.1 255.0.0.0  no shutdown:  uturface fest ethernut 0/1  y address 50.0.0.1 255.0.0.0  no shutdown:  uturface Serial 2/0  p address 50.0.0.1 255.0.0.0	196		
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nt wface fast exernit 0/1  if addres 30.00.1 25.5.0.00  no Shutdown  noturface Serial 2/0  if addres 50.00 2 255.0.00  no Shutdown	021		
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	- Maria Carallan	ent	
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network 2000 o	
network 50000	
THEROTER 2000.0	
Observation	
A In hools A of A	
C 10.0.0   8 in directly connected factether R 20.00   8 via 40.002, Serial 210 R 3000   8 via 40002, serial 210 C 4000   8 in directly connected. R 50.000   8 via 4000.2, Louis 210	rutojo
R 30.0.0. 0/8vis 400.0.2, seval 40	
C 4000. 0/8 is directly connected.	
R 50.00018 ria 46.00.2, build 270	
BAR ISSUED A LAND	
Drug	
ping	
PC 7 ping 30.0.0.3  Reply from 30.0.0.3  Keply from 30.0.0.3  Reply from 30.0.0.2	
Pener & 30003	100
20003	
14 July 4 100 30 00 3	
P. M. J. 20002	
reply from 30.0.03	
	n 0/m /
Packets Sent = 4 Received = A Last = 0 (	0/10
	_



```
Request timed out.
Reply from 20.0.0.2: bytes=32 time=2ms TTL=126
Reply from 20.0.0.2: bytes=32 time=2ms TTL=126
Reply from 20.0.0.2: bytes=32 time=4ms TTL=126
Ping statistics for 20.0.0.2:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 4ms, Average = 2ms

PC>ping 20.0.0.2

Pinging 20.0.0.2 with 32 bytes of data:

Reply from 20.0.0.2: bytes=32 time=5ms TTL=126
Reply from 20.0.0.2: bytes=32 time=1ms TTL=126
Ping statistics for 20.0.0.2:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:

Minimum = 1ms, Maximum = 5ms, Average = 2ms

PC>
```

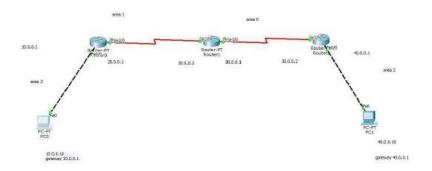
# PROGRAM6: Configure OSPF routing protocol OBSERVATION:

tes	129 Date 1	1
33/11	configure ast recting pertocol	
	New : In tening noop and	1
1	Foutero Router! 20.0.01 20.0.02 20.0.01 20.0.00 Pouter 2	,
neu	Utra 3 / Ovar	~
	(0.0.0.10 40.0.0.10	2
	Gateway 10.0.0.1 Guteway 40.0.0	1
	Jopelogy - 2 PCs are connected to respective router with yo W.O.O.Dand 40.0.0.10 and each router is connected to itself	
	Procedure Router R 1	1
	- interface fastelliernet 2/0 up address 10.0.0.1 255.0.0.0	
	no shitanin	
	visterface Serial 1/0  p address 20.00.1 255.0.0.0	
	en apsulation ppp clock rate 69000 no Shuldown	

1	In Router R2
1	In Kuller
	interface serial 1/0  4 oddress 20.0.0.2 254.0.0.0
	interface Server 2000.
	y address all the property
1	0 10 10 10 10 10 10 10 10 10 10 10 10 10
	no shutdown.
	2011
	interface serial 1/1.  y oddress 20.0.0.1 255.0.0.0
	10 nddress 20.0.0.1 255.00
1	encapsulation ppp. clock rate 61000
1	alore nati 61000
	no shutchown.
	1 M Shilliam
11810/00/2	
	d 0 45 00
	In Router R3
	interface Serial 110  ya addsus 30.00.2 255.0.0.0
	w abldry 30.0.0.2 255.0.0.0
	en capsulation ppp clock rati 64000
	place rate GAME
	and full often
	ent
	y ordine 40.0.0.1 255.0.0.0
	is address sono secono
	no shutdown -
	Masternaturi -
	In Router R,
7-	nowfer exort 1
7	router espf 1 router-id 1.1.1.1
-1	1400-101.
-	Whork 10.0.0. 0 255.255.0 was 2 WHORK 20.0.0.0 0.255.255.255 was 1
	MIKONA 20.0.0.0 0.256.9 56.266
H	117 USS WWa /

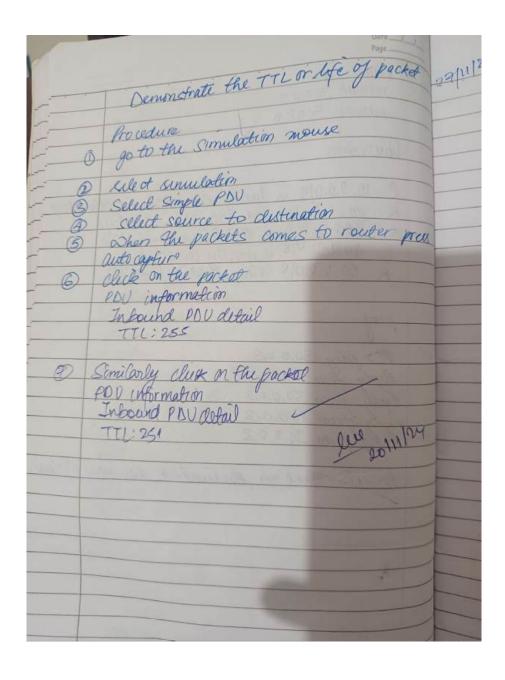
11	Poge
1	In Router Ro
1	nouter oupf 1
1	nouter-id 9.2.2.2 notwork 20.0.0. 0 255:255.255 area!
1	network 20.0.0. 0 755:256.256 area!
	network 30.0.0 0.255.255.255 area.0
1	
1	In Louder R2
1	rouser out 1
1	renter-id 3:333
	netrook 30.0.0.0 0.255.255 .255 area o
	network 40.0.0.0 0.255.255.255 and 2.
	ent and sallering one
	and survey
	Output
	# show ip route
	C 10.0.6.98 FasEthernet 2/0
	0 20.0.0.0/8 Seral110
	OTA 40.0.0.0/8 Serial/10
	011 30.0.0.0/8 Serial1/0
	On 2 19 19 19 19 19 19 19 19 19 19 19 19 19
-	Router)
-	
1	interface Coopback O
1	ip add 172.16.1.252 255.255.00
	no shuldown
1 /	no shuldown
	Router L
	Interface largebrock O
1	interface loopback o
<i></i>	if abbl 192.16.1.253 755.25500
-	no Shutdown
_	
	Router 3
	interface Danback O
9	y add 19216.1.259 255.255.0.0

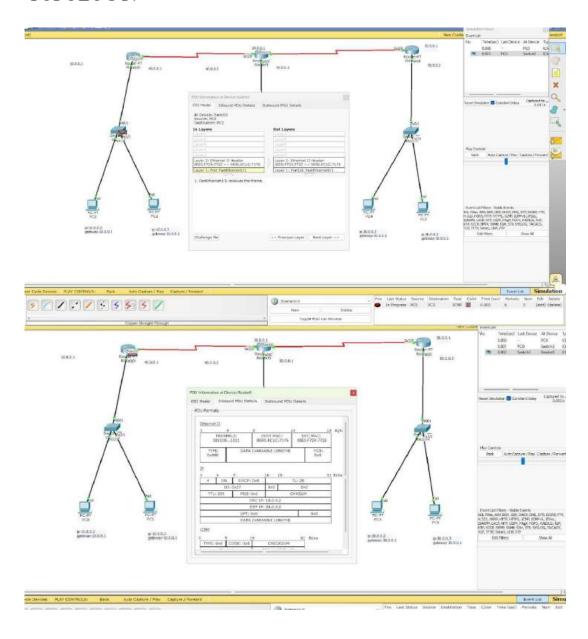
Observation	18/12/
0 IA 20.00.0 @ Serial 110 C 40.0.0.0 & FastEthernotzeo C 20.0.0.0 & Social 110	Auri
Traffa- apt 4	5
Router)	3
nouter off! area I virtual link 2.2.22.	
In Router 2 Virtual link not found Loading Done	
Re # area! vintual-link!!!!!	)
Observation	
ping A0.0.0.10 Packets Sent=A, Received=A, host=0(00)01	oes)
200 111/20	

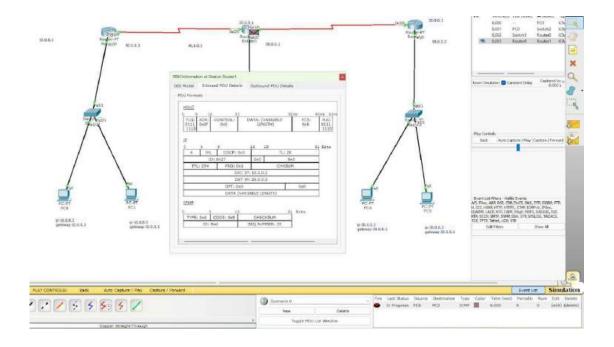


```
Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Request timed out.
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=4ms TTL=125
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss), Approximate round trip times in milli-seconds:
    Minimum = 4ms, Maximum = 6ms, Average = 5ms
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Reply from 40.0.0.10: bytes=32 time=8ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 8ms, Average = 6ms
```

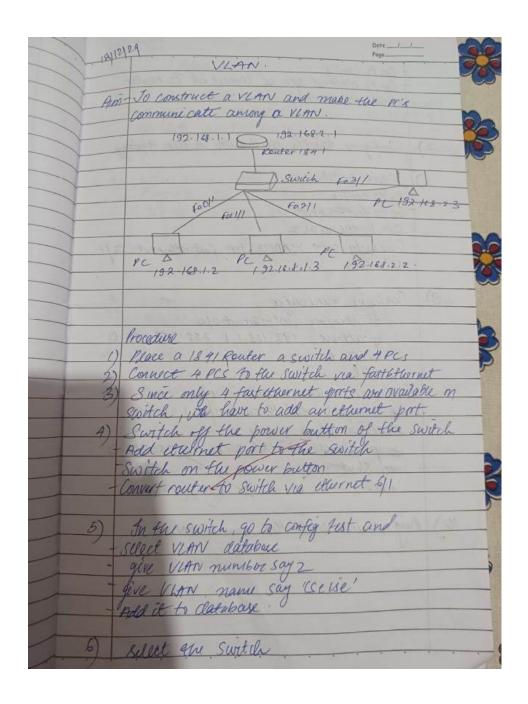
## PROGRAM7: Demonstrate the TTL/ Life of a Packet OBSERVATION:







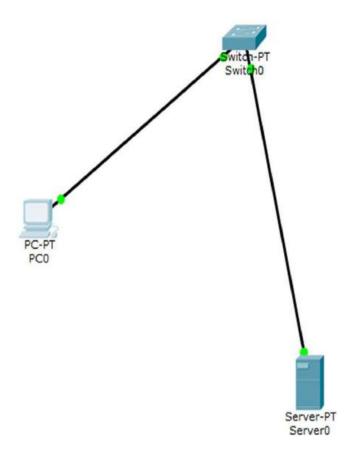
# PROGRAM8: Configure Web Server, DNS within a LAN. OBSERVATION:



	Page 1
	- Go to effort GI u connect ed to renter
3	make it trunk
7	Configure the PCs as shown in the topday
6- 4	Select switch
N	Go to config Go to fact Ethornet 2/1
	- Set VIAN no as 2 - Cimilarly set victor 2 for fast Ethernet 3/
<b>(</b>	interfalls
9)	Configure the router
	# weinfuce fast Ethernet 0/0  up agarese 192.168.1.1 255 255.255.0
/	no shut
	Configure router VIAN interface
	# wherface fatethernot 0/0.1
- 14	#encapsulation det ly 2
	no Shut 192.166.2.1 255.255.0
4	end
1 0	Price 1
7	Ping devices with the same VIAN
1-	
1-	
1-	

	Poge
1	Observation
1	
1	) Cohen devices are pringed could
	- Penging 192-168.1.3 from 192 168 1 2
	- The data pocket doesn't go to route
	- The switch forward without the works
	Other device are penged conther same vinn  - Penging 132.168.1.3 from 132.168.1.2  - The data parket abern't go to router  - The switch forward without the need of router
2	When device pings a device of matter source
	When device pungs a device of another VIAN Punging 192 168 2-3 from 192-168-12
	The data prichet sourner on follows
	The data packet journey of follows
1	1 100 12 swarm - House
1	192.168.7.3 - Switch
3,	VITTN'S clivide a single currect ito multiple logical switches.
	Cogical awitches.
	AN LOGICAL DESCRIPTION OF THE PROPERTY OF THE
4)	Traffic Icolatin - Each VIAN mountains
	ate own broadcast domain
-	Broadcast sent by devices in one view donot
1	cent che deviced in manter (1, 20)
-	search devices in another vian
	1 1 10 11000
100	It is done by adding additional header information called tag to the ethernet frame
	information called try to the ethernet france
	VIAN tapping
B BILLE	
	114
	Leel

## TOPOLOGY:



## **OUTPUT**:

Quick Links:

linkdin github

portfolio

username

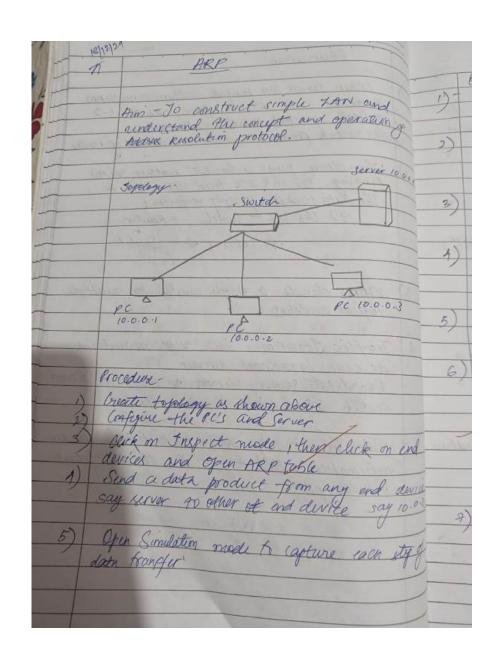
# education

bms college of engineering 8.8.6 cgpa computrer science engineering

# project

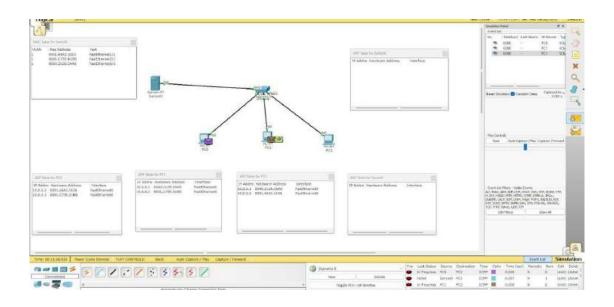
loibrary management system

PROGRAM9: To construct simple LAN and understand the concept and operation of Address Resolution Protocol (ARP) OBSERVATION:



1	Dote
1	Observation Page
	The ARP Public of all end devices one
- V	initially empty
Z ·	When the date will a
1	mital Com the Man forket from server private
	send a broadcast signal on all divisions of
202	The started
3	The device with 18 address browns
	address of data packet surands to the distribution
	The device with 18 address prisent in the distinction address of data peoplet responds to menage
7	matching IP address to MAC address
5)	Over time, she ARP tuble mount on hoose
	Over time, the ARP table grown as date packets are sent.
	New Manual Manua
6)	The MAC table of the switch which was intelled
	empty undates it MA ( productly)
	The MAC table of the switch which was nutrally empty updates it MAC gradually
	ARP Table for 10.0.0.1
1	The Landson La
	IP address fordware address Interpre
	60.0.0.3 6001 C726.47 E5 FostEtturneto
2	
0)	a to a second to a
1 7) 0	Similarly ofther ARP are updated
	THE PART OF THE PARTY OF THE PA
	as he are the first of the last open
	a result to the street of
1 1	

## TOPOLOGY:



PROGRAM10: To understand the operation of TELNET by accessing the router in server room from a PC in IT office.

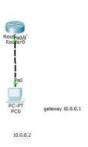
OBSERVATION:

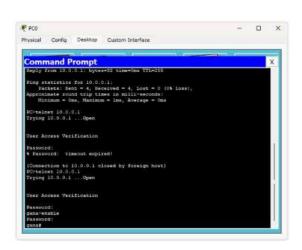
TEINET	7
them - To understand the operation of Terms by occurring the router in server room from a st in It office	3)
Topology	
PC (0.0.0.1 (0.0.0.2	4)
Procedure	5)
(onfigure the device.	
Router # Unfig terminal	Kad
Rouler (comfix) =# hos/grame R1  R1 (comfix) ## enable secret 122 4	
RI (config) + Interface fast Ethernet do RI (config) + ip address 10.0.0.2 255.0.00 RI (config) + no Shut	6)
RI (onfy-y) = (me vty 03  RI (onfy line) = Ggin	

Je legg disabled on and 1992 until  pargood set  \$1 (config line) \$ principal assay  \$2 (configure to and laptop with wireless  \$2 (configure to the state of physical assay to the configuration  \$2 (configure the device by intering, \$510, well wirely port  \$3 (configure the device by intering, \$510, well will key it order and fatnoody  \$4 (configure the device by intering)  \$5 (configure the device by intering)  \$5 (configure the device by intering)  \$6 (configure the device by intering)  \$6 (configure the device)  \$6 (configure the configuration  \$6 (configure to every other device)		To login direction	Date	
SI Courty - Line ) & promoved 2024  SI Courty - Line ) & promoved 2024  Souther of clarice  Switch off clarice  Drag 400 enting PT-40ST-NM-1AM to the  Configure to 145 of physical  Nong WNP 300N covilles indexpose to  Longty port  A) In the config tab, a new availer interface  was added  S) Configure the device by intering 5518, were  was added  Topology after availers infiguration  Restrong 10000 of 10000 of 100000 of 1000000  Restrong 4000000 of 100000000000000000000000000000		pargoord cet	ni 199, sentel	P
S) Configure re and laptop with winden  Switch off clerice  Drag gas entiting PT-40ST-NM-1AM to the  Configure to MNS of physical  A) In the config tab, a new covider interface  was added  S) Configure the device by entering SSID, were  Well key IP admin and gatassay  Jopelagy after avielus infiguration  Read 0002  Ping from every device to every other device  to clock for connection  RIC config) # ent  RI+ cor		RITCONFEG - Cine) + come	A CONTRACTOR OF THE PROPERTY O	U
S) Configure re and laptop with winden  Switch off clerice  Drag gas entiting PT-40ST-NM-1AM to the  Configure to MNS of physical  A) In the config tab, a new covider interface  was added  S) Configure the device by entering SSID, were  Well key IP admin and gatassay  Jopelagy after avielus infiguration  Read 0002  Ping from every device to every other device  to clock for connection  RIC config) # ent  RI+ cor	2Nex	RI Courter - June 1 +4	ord +321	DP
Drag que enting PT-HOST-NM-1AM IN AM CONGRENCE LA SUPER CONTROLL STAND STAND LANGE SUPER L		1 11 11	q-	4
Drag que enting PT-HOST-NM-1AM IN AM CONGRENCE LA SUPER CONTROLL STAND STAND LANGE SUPER L	(3)	Confirme roand las		
Drag que enting PT-HOST-NM-1AM IN AM CONGRENCE LA SUPER CONTROLL STAND STAND LANGE SUPER L	1	Handard	of with wireless	
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device	-	Switch off derice	The state of the s	10
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device		Drag que eniting PT-40	C.T.	16
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device		comment in Trucos in	NM-IAM to the	
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device		- Aras ZVMP 300N	age raf	1
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device		and not	mes interface to	9
Joseph the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Coopyre the device by entering sois, were  (a) Topology after avieless configuration  (b) The from aviry device to every other divide to device to every other divide to device to every after divide to device		angry for	1	1
5) Configure the device by entering, SSID, WEP  WER key IP address and gatessey.  Jopology after avoiders configuration  France 0.0.0.2  Ping from every device to every other divide to the K for convection  RI (emfig) # enit  RI + cor				1
5) Configure the device by entering, SSID, WEP  WER key IP address and gatessey.  Jopology after avoiders configuration  France 0.0.0.2  Ping from every device to every other divide to the K for convection  RI (emfig) # enit  RI + cor	4)	In the config tab, a her	~ avreley uterface	7
Jopology After avirelus configuration  faceus  10000  1000		was acree -	10 Management	IP
Jopology After avirelus configuration  faceus  10000  1000				4
Jopology After avirelus configuration  faceus  10000  1000	5)	Configure the device b	4 entering SCIA GER	
Jopology After avirelus configuration  faceus  10000  1000	- Till 1	WER key 10 address and	Cateron	
Accus 10.0.0.2  Ring from every device to every other device to check for convection  RI ( unfig) # exit  RI + wr				1-
Accus 10.0.0.2  Ring from every device to every other device to check for convection  RI ( unfig) # exit  RI + wr		Topology offer wireless	101 Course	1/5
By from every device to every other direct to check for connection  RI (config) # exist  RI + cor	16		angguración	
By from every device to every other direct to check for connection  RI (config) # exist  RI + cor	- Rooser			
5) Ping from every clevice to every other divide to check for connection  RI (config) # enct  RI + cor	100	0.0.0.2	1000	1
5) Ping from every clevice to every other divide to check for connection  RI (config) # enct  RI + cor	+	<u> </u>	Actus	-
E) Ping from every device to every other divide to check for connection  RI (imfig) # enct  RI + cor			7000	
E) Ping from every device to every other divide to check for connection  RI (imfig) # enct  RI + cor	The state of the	I ROOM	Strain Land	
E) Ping from every device to every other divide to check for connection  RI ( config) # exist  RI + wr		4	PC TE	1
RI (config) # exit		100 100 100 1	A 10.0.0-3	P
RI(config)#enct  RI+ cor		h a	40 40 40	103.30
RI(config)#enct  RI+ cor	6) 1	ing from every device	to every other airie	253.4
RI (config) # enct  RI + cor	to	I check for convection		THE REAL PROPERTY.
RI # wr				
Build Configuration				
Build infiguration		1 = wr		R
	The B	suld infiguration		

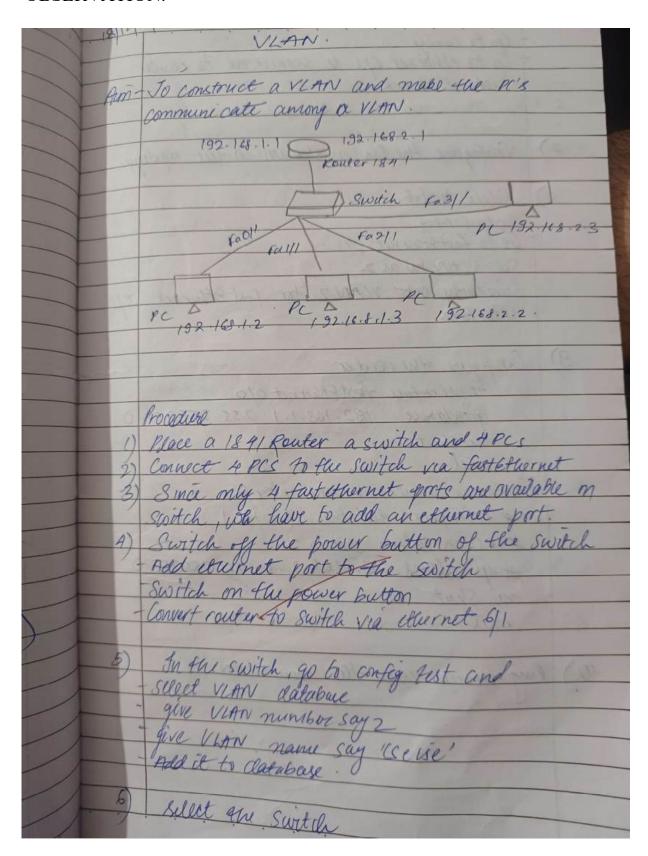
	Date Page
	In Pl: command prompt First try pinging to see if device are connected
10 - 3)	To De command from the cu y derice are
	- First try pinging
	connected
	1 2 - 10 0.0.2
	PC7 telnet 10.0.0.2  Trying 10.0.0.2 open
	Jrysug 10.00
	Negotificality
4	User Acun Verificalim
	Pario ord: 1321
4	Paniord: 4324
	DIS a collin
	RI + Show ip vout
33.6	Postethernet 0/0 is directly connected)
	fisterwet 0/0
	Observation
~ 9+	The admin in PC is able to run command
2	as run in router are and see easilt from
~ 2) V	elect allows riser to establish a remote
	18 nothings another device, over a top 2
	Il notions ?. over a top 2)
	THE COTO R.
. 0	,
3)	Using telnot, we can access and control the
u d	anott device con suit is Endite
	unote device CLI as y physically countil
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3 1/2	The Manual Comments of the Com

## TOPOLOGY and OUPUT:



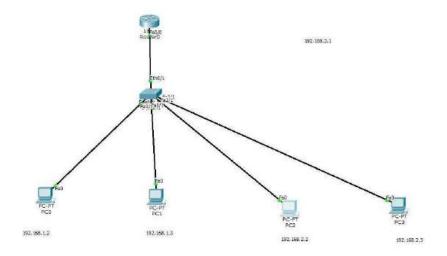


PROGRAM11: To construct a VLAN and make the PC's communicate among a VLAN OBSERVATION:

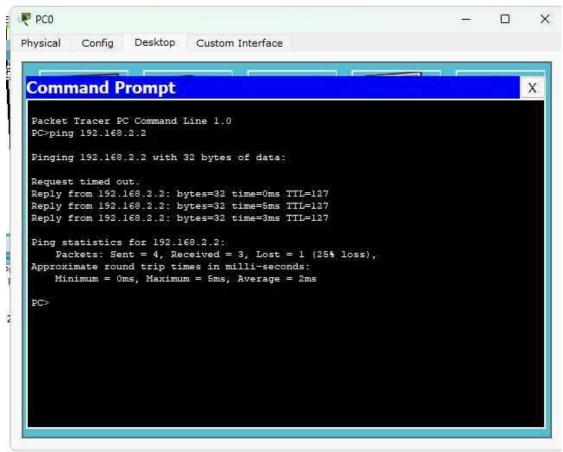


	Go to config Go to connect by i is connected to newter	
	- Marke of frunk	1) - 1
7)	Configure the Pa as shown in the topology	- Jh
8)	Select switch  Go to config  Go to fact of hornet 2/1  Set VLAN no as 2	2) 4
-	Cimilarly set VIAN 2 for fact Ethernet 3/	7.0
9)	Configure Au router  # interface fast Ethernet 0/0	3)
1	up addresse 192.168.1.1 255.255.255.0 no Shut	2
	# author fact chernot 010.1  #encapsulation dot by 2	
	no shut end	
0) 80	ing devices with the same VIAN	

#### TOPOLOGY:

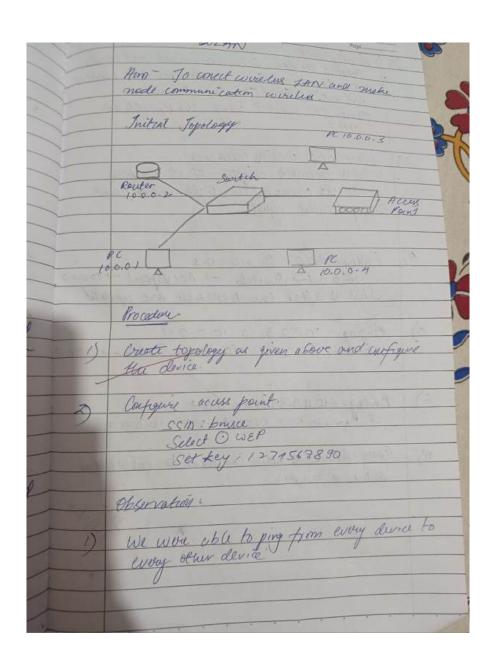


gateway 192,168,2,1



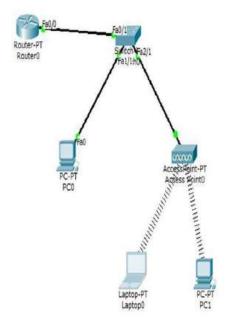
PROGRAM12: To construct a WLAN and make the nodes communicate wirelessly To construct a WLAN and make the nodes communicate wirelessly

#### **OBSERVATION:**



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WIA2.		
	miles interface	
3) WMP300N W	& register that enable	100.00
- World north	* adopter that enables municate with occurs par	
rusing covaless	comal	
A) Pinging 10.0.0.	Switch - Accuspoint +10	11/22/11
10001-1	Switch - Accusjoint +10	
Jhis & after	the ASP table are explain	
5) Pinging : 10.0.0	· 8 to 10.0.0.1	
10.8.0.3-	Acustoist - Switch 100	
	7	
6) Pinging 10,0,0,3	to into	
10003	to 10.0.0.1 necussois - 10.00.	
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2) Evory Novice is	and connected to every other	32000
de la vice de v	ow connected to every other	
derice in WLAN		
	. L. W.	
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#### TOPOLOGY AND OUPUT:



```
Laptop0
                                                                                       - D X
Physical Config Desktop Custom Interface
 Command Prompt
                                                                                                    X
 Packet Tracer PC Command Line 1.0
  Packet Tracer PC Command Line 1.0
  Packet Tracer PC Command Line 1.0
 PC>ping 10.0.0.2
 Pinging 10.0.0.2 with 32 bytes of data:
  Reply from 10.0.0.2: bytes=32 time=21ms TTL=128
 Reply from 10.0.0.2: bytes=32 time=12ms TTL=128
Reply from 10.0.0.2: bytes=32 time=12ms TTL=128
Reply from 10.0.0.2: bytes=32 time=11ms TTL=128
 Ping statistics for 10.0.0.2:
 Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), 
Approximate round trip times in milli-seconds:
      Minimum = 11ms, Maximum = 21ms, Average = 14ms
 PC>
```

# CYCLE-2

PROGRAM1: Write a program for error detecting code using CRC-CCITT (16-bits)
OBSERVATION:

	Sorte - Finer
	CRC- CCITT (16 bits)
(Val-	The Administration of the second second
1 det	cre cottl (data:str, polynomial: int = 0x), tral value:int=0xffff) - t int tralytu=data encode()
inc	tal value int oxer
al da	re initial value
11-0	TC = metal, vicoss
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781	lyte in data byter orc ^= (byte des)
4	for in range (S)
	V Crc 8 0x 8000 :
	for in range (8)  y cross ox 8000: erc = (cross)^ polynomial
	lll:
	Crcx431 A Day San A
	erc8 = 0xffff
	return ctc.
_ def m	ain():
211	usage - injust ("Enter the musage:") = etc Coitt (musage) it (f"CRC-CCITT (16 bit) value for the stage 'formessage g' here (ctc)
nro	=erc_ cost (mussage)
pru	tt f" CRC-CCITT & 18 bit Value for the
- Matt	was francours & day ( con
100	( surviges ment ( r c)
2/	nu = - "main_"
- 1 nvo	incs.
Output	
Out or Lea	O COMP : HOLLO
one in	citt (16-bit) value = 0x3f50.
1 611 6	value = 0x3f50.

```
CODE:
def xor(a, b):
  result = []
  for i in range(1, len(b)):
     if a[i] == b[i]:
        result.append('0')
     else:
        result.append('1')
  return ".join(result)
def mod2div(dividend, divisor):
  pick = len(divisor)
  tmp = dividend[0:pick]
  while pick < len(dividend):
     if tmp[0] == '1':
        tmp = xor(divisor, tmp) + dividend[pick]
        tmp = xor('0' * pick, tmp) + dividend[pick]
     pick += 1
  if tmp[0] == '1':
     tmp = xor(divisor, tmp)
  else:
     tmp = xor('0' * pick, tmp)
  checkword = tmp
  return checkword
def encode(data, key):
  key len = len(key)
  appended data = data + '0' * (key len - 1)
  remainder = mod2div(appended data, key)
  codeword = data + remainder
  print(f"Encoded Data: {codeword}")
  return codeword
def decode(data, key):
  remainder = mod2div(data, key)
  print(f"Remainder after decoding: {remainder}")
  if '1' not in remainder:
     print("No error detected in received data")
  else:
     print("Error detected in received data")
```

# Main function

```
if __name__== "__main__":
  data = input("Enter the data bits: ")
  key = input("Enter the key (divisor): ")
  # Encoding
  encoded_data = encode(data, key)
  # Decoding
  print("\nDecoding the encoded data...")
  decode(encoded data, key)
```

```
Enter the data bits: 111100000111010
Enter the key (divisor): 1010111
Encoded Data: 111100000111010110101
Decoding the encoded data...
Remainder after decoding: 000000
No error detected in received data
```

PROGRAM2: Write a program for congestion control using Leaky bucket algorithm.
OBSERVATION:

	Tint main CR Page	
	Int man CX	18.33
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vireles	orate, p-se m=0, p-s2/p time op;	6
-		
	to the court = random of 100	
	for (-Int i=0: 12 Not Particle 1141) 5	100
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	The Secretary of the second of	
	frinte ("enter output rate"),	335
T	would ( ) b ( ta );	1
	printf (" Enter the broket sixe");  Scart ("Olod" Obsize)	
	Lead State 1 100 100 100 100 100 100 100 100 100	1
	for (120; 12 NOT PACEETS; 1++)3	-
	of packet sz(i]+p. sz.rm) > b.size)	
0.0.00	9 ( raket &2 1 1 > b_ & 121)	
8	points / "Inth Incoming parket size	
	ig greater than bucket size")	-
		100
0.0.7	else \$	
	p-82-rm += packet 12CiJ;	
	mint f ("In Incoming pocket pocket szto)	150
	prints ("Byte remounting to Transmit, p. 5250)_	
	Cohile ( p. s.z.rm)	~
1000000	Sup(1);	14/1
	y PSZ rm ≤0-rati).	1
	Ob 4 67 m sh 67 rm=0	
	0p=psz_m (psz rm=0)	
M	else	
	op=0.ratt, p.sz m= ciw	
1	printf ("Yorkit size " 8") by 1")	-
1111	else  op=0 rate psz rm=0 rate;  printf ("Porket size", y)  printf ("Bytes remaining to transmit")  g printf ("Bytes remaining to transmit")	
	g francisco de la constante de	
	else & prints ("No postules to transmit")	
	CAN A BLUCK	1
	0 4 9	
		200

#### CODE:

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h> // for sleep function
#define NOF PACKETS 5
// Function to simulate sending packets
void send packet(int packet size, int output rate) {
  while (packet size > 0) {
    int sent = (packet size < output rate) ? packet size : output rate;
    printf("Packet of size %d Transmitted---", sent);
    packet size -= sent;
    printf("Bytes Remaining to Transmit: %d\n", packet size);
    sleep(1); // Simulate time delay between packets
}
int main() {
  int output rate, bucket size, incoming packet size;
  int i, packet size[NOF PACKETS];
  // Input number of packets and their sizes
  for(i = 0; i < NOF_PACKETS; i++) {
     packet_size[i] = rand() % 100; // Random packet size between 0 and 99
```

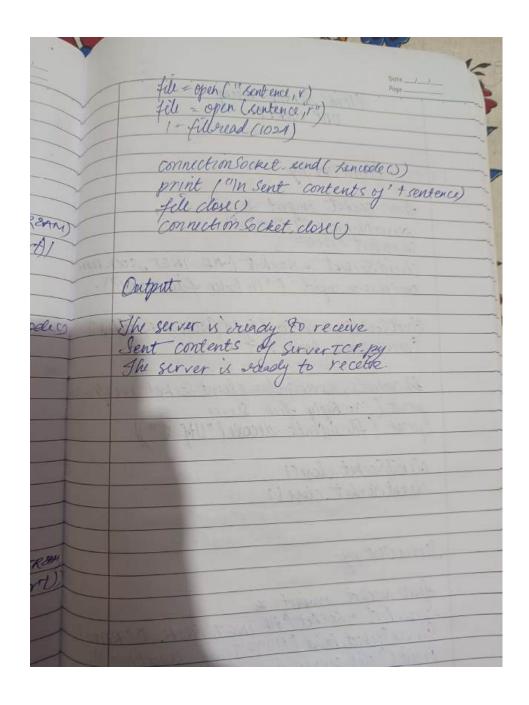
```
printf("packet[%d]:%d bytes\n", i, packet size[i]);
  printf("Enter the Output rate:");
  scanf("%d", &output rate);
  printf("Enter the Bucket Size:");
  scanf("%d", &bucket_size);
  for(i = 0; i < NOF PACKETS; i++) {
     printf("\nIncoming Packet size: %d\n", packet size[i]);
     if(packet size[i] > bucket size) {
       printf("Incoming packet size (%dbytes) is Greater than bucket capacity (%dbytes)-
PACKET REJECTED\n", packet_size[i], bucket_size);
       continue;
     }
     printf("Bytes remaining to Transmit: %d\n", packet size[i]);
     send packet(packet_size[i], output_rate);
  return 0;
}
```

```
packet[0]:83 bytes
packet[1]:86 bytes
packet[2]:77 bytes
packet[3]:15 bytes
packet[4]:93 bytes
Enter the Output rate:50
Enter the Bucket Size:300
Incoming Packet size: 83
Bytes remaining to Transmit: 83
Packet of size 50 Transmitted---Bytes Remaining to Transmit: 33
Packet of size 33 Transmitted---Bytes Remaining to Transmit: 0
Incoming Packet size: 86
Bytes remaining to Transmit: -86
Packet of size 50 Transmitted---Bytes Remaining to Transmit: 36
Packet of size 36 Transmitted---Bytes Remaining to Transmit: 0
Incoming Packet size: 77
Bytes remaining to Transmit: 77
Packet of size 50 Transmitted---Bytes Remaining to Transmit: 27
Packet of size 27 Transmitted---Bytes Remaining to Transmit: 0
Incoming Packet size: 15
Bytes remaining to Transmit: 15
Packet of size 15 Transmitted---Bytes Remaining to Transmit: 0
Incoming Packet size: 93
Bytes remaining to Transmit: 93
Packet of size 50 Transmitted---Bytes Remaining to Transmit: 43
Packet of size 43 Transmitted---Bytes Remaining to Transmit: 0
```

PROGRAM3: Using TCP/IP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

OBSERVATION:

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Clink server program nung TOP, IP kockels
Client-TCP. py
Server Name = (129.0.0.1)
Severbort = 12000 Severbort = 12000 Severbort = 12000
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Chent State (Kerverhame serverPort)
Chent School Contact PrEnter-file name")
Chint Socket connect (Kerver Name server Port)  Chint Socket connect (Kerver Name server Port)  Sentence = cupiet ("Enter-file name")
1 ( contaure encode ())
Schoolinte Client Socket recv(1024). cle cod
mount from server 1.
print (file contents)
Clevit Socket . Close ():
The second and as the let
Carvar TCP, My
Server TCP-py
from contact was LX
from socket ingert*
Server Name = "127.0.0.1"
Server Port -12000
Server Sockel = Socket (AF_INET, STOCK_STR)
server socket bind ( Kerver Name, server Port
Server Socket lister (1)
entite 1
tolled the state of the state o
print ("The server is ready to mercive")
Comnection Socket, addr = cerver socket accepted
gentence - connection Socket recv (1024) decode
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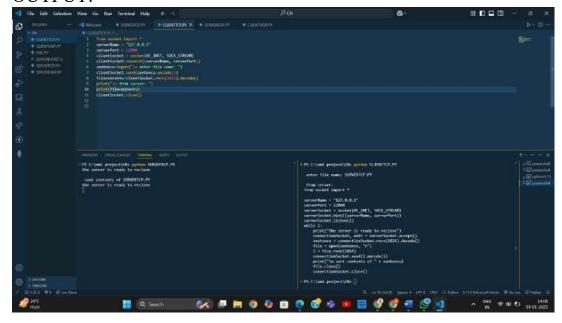
# CODE: SERVERTCP.PY:

from socket import \*

```
serverName = "127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_STREAM)
serverSocket.bind((serverName, serverPort))
serverSocket.listen(1)
while 1:
    print("the server is ready to recieve")
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv(1024).decode()
    file = open(sentence, "r")
    1 = file.read(1024)
    connectionSocket.send(l.encode())
    print("\n sent contents of " + sentence)
    file.close()
    connectionSocket.close()
```

#### **CLIENTTCP.PY:**

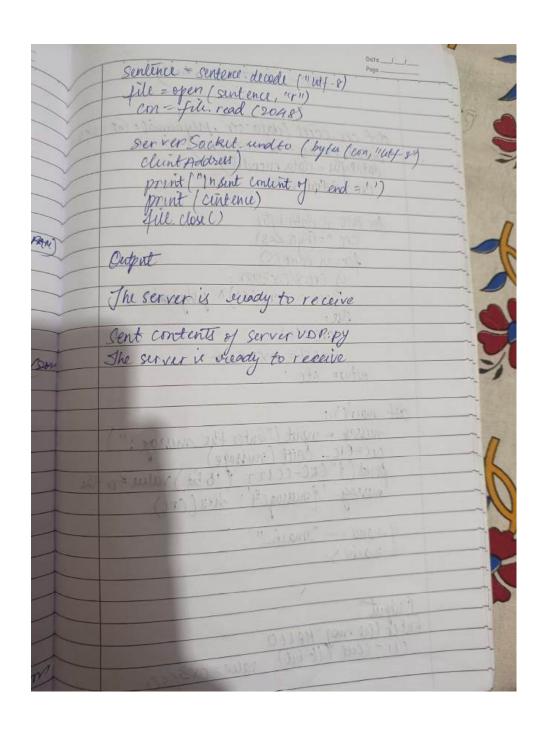
```
from socket import *
serverName = "127.0.0.1"
serverPort = 12000
clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((serverName, serverPort))
sentence=input("\n enter file name: ")
clientSocket.send(sentence.encode())
filecontents=clientSocket.recv(1024).decode()
print("\n from server: ")
print(filecontents)
clientSocket.close()
```



PROGRAM4: Using UDP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

OBSERVATION:

Clunt UN py  Clunt UN py  Grown socket ingent *  Server Name "172.0.0."  Server Name "172.0.0."  Server Name "172.0.0."  Server Name Socket (AF - INET, SOCK Upm  Clunt Socket Send to Expts (Sent ence, "uff-x")  Clunt Socket Send to Expts (Sent ence, "uff-x")  Elunt wids, server Add = Clunt Socket rewfrom  print ("I'm Riply from server  print (flumbents decade ("Utf-s"))  Cluent Socket close ()  Cluent Socket close ()  Server ocked brief (I'') 77 0.0."  Server Socked brief (I'') 77 0.0."  Server Socket rewfill  ordine ("The server as bready to receive")  System (Clunt Address = server Socket rewfill  (2000)		Many verver wing
Clunt UN py		une socket
Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Socket - Socket (-AF-INET, SOCK MAN)  Clurit Socket - Send to ( "In Exter fills mane").  Sentence = upid ( "In Exter fills mane").  Clurit Socket - Send to ( byta ( sent ence, "lity-s")  Clurit Socket - Server Add = clurit Socket - revisions  print ( "In Reply from Server  print ( fill unitents - decode ( "Utf-s"))  Client Socket - close ()  Client Socket - close ()  Client Socket - close ()  Server Vol. py  from speket uniport *  Surver Port = Socket ( AF INET, SOCK - DORAN)  print ("The server as Lee ady ( receive ")  oghile ( "Surver Add - Server as Lee ady ( receive ")  Cythence, cliint Addrus = Server, Socket rewith		100
Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Socket - Socket (-AF-INET, SOCK MAN)  Clurit Socket - Send to ( "In Exter fills mane").  Sentence = upid ( "In Exter fills mane").  Clurit Socket - Send to ( byta ( sent ence, "lity-s")  Clurit Socket - Server Add = clurit Socket - revisions  print ( "In Reply from Server  print ( fill unitents - decode ( "Utf-s"))  Client Socket - close ()  Client Socket - close ()  Client Socket - close ()  Server Vol. py  from speket uniport *  Surver Port = Socket ( AF INET, SOCK - DORAN)  print ("The server as Lee ady ( receive ")  oghile ( "Surver Add - Server as Lee ady ( receive ")  Cythence, cliint Addrus = Server, Socket rewith		
Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Name "1729.0.0"  Server Socket - Socket (-AF-INET, SOCK MAN)  Clurit Socket - Send to ( "In Exter fills mane").  Sentence = upid ( "In Exter fills mane").  Clurit Socket - Send to ( byta ( sent ence, "lity-s")  Clurit Socket - Server Add = clurit Socket - revisions  print ( "In Reply from Server  print ( fill unitents - decode ( "Utf-s"))  Client Socket - close ()  Client Socket - close ()  Client Socket - close ()  Server Vol. py  from speket uniport *  Surver Port = Socket ( AF INET, SOCK - DORAN)  print ("The server as Lee ady ( receive ")  oghile ( "Surver Add - Server as Lee ady ( receive ")  Cythence, cliint Addrus = Server, Socket rewith		Client ON py
Cluid Socket = Socket (AR-INET, Sock Um,  Sentence = unpid ("In Ender fill mane").  Cluid Socket send to fly to (sent ence, "uff-s")  (server name, server Add = cluid Socket receptions  print ("In Reply from Server  print (fill contents decade ("Utf-s"))  Cluid Socket close ()  Cluid Socket close ()  Cluid Socket close ()  Server vol py  from socket wiport *  Server Socket (AF INET, SOCK, DORAM)  print ("The server as weady to receive")  oghile 1:  Suttence, clint Address = server, Socket rowth?	1 In 1000 10	***
Cluid Socket = Socket (AR-INET, Sock Up,  Sentence = upid ("In Ender fill mane").  Cluid Socket send to fly to (sent ence, "uff-s")  (server name, server Add = cluid Socket recuprome  print ("In Reply from Server  print (fill contents decode ("Utf-s"))  Cluid Socket close ()  Cluid Socket close ()  Cluid Socket close ()  Server vol py  from speket unpint *  Server Socket (AF INET, SOCK, DORAM)  print ("The server as weady to receive")  oghile 1:  Suttence, cluid Address = server, Socket rowth)	1	from socket infort
Cluid Socket = Socket (AR-INET, SOCK Up,  Sentence = upid ("In Exter fill mame").  Cluid Socket send to fly to (sent ence, "uff-8")  (server name, server Add = cluid Socket receptions  print ("In Reply firm Server  print (fill intents decade ("Utf-8"))  Cluid Socket close ()  Cluid Socket close ()  Cluid Socket close ()  Server vol py  from speket unport *  Server Socket (AF INET, SOCK, DORAM)  print ("The server as weady to receive")  oghile 1:  Suttence, cluid Address = server, Socket rowth)	10	sever Name 174.0.0
Church socket send to ("In Ender fill mane").  Clurt Cocket send to ( byta ( sent ence, "intf-8')  ( server name, server Port II  Like which server Add = clunt Socket recuprone  print ("In Reply from Server  print (fill for decade ("Utf-8"))  cluent Socket close ()  Cluent Socket close ()  Server Port = socket (AF INET, SOCK, DGRAM)  print ("The server is weady to receive")  ordine 1:  Surtence, cluint Address = server, Socket rewhile	16 - 5	ServerBort = 10000
Clund Socket send to fayta (centence, "ict-s")  iserver name, server Port II  identified, server Port II  client Socket close ()  client Socket close ()  client Socket close ()  Server Port - Socket (AF INET, Sock, DCRAM)  print ("The server is see ady for receive")  orbital:  Surtence, client Address = Server, Socket rowth.	1.	chent Socket = Socker ( son fill mane)
Clurit Socket : send to f byte (sent ence, "iff-8")  Exercentance : server Port ?!  Allendands : server Add = clurit Socket : receptional print ("I'm Reply from Server print (filluments decode ("Utf-8"))  alient Socket : close ()  Server Port = socket (AF - INE T, SOCK DC RAM) print ("The server as weady for receive")  othile 1:  Surtence, clurit Address = server Socket rowth?	3	senfence = inpid (In enter fore)
Server Socket Socket (1"177 00.1" Severt Port)  print ("In Reply from Server  print (filecontents decode ("Utf-&"))  alient Socket close ()  Server vor py  from socket import *  Server Port - socket (AF-INET, Sock, DCRAM)  print ("The server is see ady for receive")  aghill 1:  Suffence, chiral Address = server, Socket rewitit		20 20 and as the Shuffe Countered lifter
Server Socket Socket (1"177 00.1" Severt Port)  print ("In Reply from Server  print (filecontents decode ("Utf-&"))  alient Socket close ()  Server vor py  from socket import *  Server Port - socket (AF-INET, Sock, DCRAM)  print ("The server is see ady for receive")  aghill 1:  Suffence, chiral Address = server, Socket rewitit		und ockel send to pylis ( sure, all 8)
Server Socket Socket (1"177 00.1" Severt Port)  print ("In Reply from Server  print (filecontents decode ("Utf-&"))  alient Socket close ()  Server vor py  from socket import *  Server Port - socket (AF-INET, Sock, DCRAM)  print ("The server is see ady for receive")  aghill 1:  Suffence, chiral Address = server, Socket rewitit	4	server mane, server for h
Server vor py  Server vor py  Server vor py  Server vor = Socket (AF-INET, SOCK, DCRAM)  print ("The server as weady for receive")  Surfence, chint Address = Server, Socket rowfill		
Server vor py  Server vor py  Server vor py  Server vor = Socket (AF-INET, SOCK, DCRAM)  print ("The server as weady for receive")  Surfence, chint Address = Server, Socket rowfill	- 9	40 dues, server Has - curre socres reciprone
Server vor py  Server vor py  Server vor py  Server vor = Socket (AF-INET, SOCK, DGRAM)  print ("The server as see ady for receive")  Surfence, chint Address = Server, Socket rowhile	- Pi	Int ( In Keply from Server
Server vor py  Server vor py  Server Port = Socket (AF INET, SOCK, DCRAM)  Print ("The server as see ady for receive")  Surfence, chint Address = Server, Socket routh	- P	int (forconfents accode (" lity - 8"))
Server vor py  Server vor py  Server Port = Socket (AF INET, SOCK, DCRAM)  Print ("The server as see ady for receive")  Surfence, chint Address = Server, Socket routh		at Out het al a
Server Port = Socket (AF INET, SOCK, DGRAM)  Server Socked Bird (1"127 0.0.1" severt Port))  print ("The server as weady to receive")  Surtence, chint Address = Server, Socked routel	- 30	end ocket. close()
Server Port = Socket (AF INET, SOCK, DGRAM)  Server Socked bird (1"127 00.1" severt Port))  print ("The server is see ady to receive")  Sentence, client Address = Server, Socket rought	- 00	entocket. Close ()
Server Port = Socket (AF INET, SOCK, DGRAM)  Server Socked bird (1"127 00.1" severt Port))  print ("The server is see ady to receive")  Sentence, clint Address = Server, Socket routel		
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## CODE: SERVERUDP.PY

from socket import \* serverName="127.0.0.1"

```
serverPort=12000
serverSocket=socket(AF_INET,SOCK_DGRAM)
serverSocket.bind((serverName,serverPort))
while 1:
    print("the server is ready to recieve")
    sentence,clientAddress=serverSocket.recvfrom(2048)
    sentence=sentence.decode("utf-8")
    file=open(sentence,"r")
    con=file.read(2048)
    serverSocket.sendto(bytes(con,"utf-8"),clientAddress)
    print("\n Sent contents of "+sentence)
    file.close()
```

#### **CLIENTUDP.PY:**

```
from socket import *
```

```
serverName = "127.0.0.1"
serverPort = 12000
clientSocket = socket(AF_INET, SOCK_DGRAM)
sentence = input("\n enter file name: ")
clientSocket.sendto(bytes(sentence,"utf-8"),(serverName, serverPort))
filecontents ,serverAddress= clientSocket.recvfrom(2048)
print("\n from server: ")
print(filecontents.decode("utf-8"))
clientSocket.close()
```

### WIRESHARK:

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