VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama", Belgaum -590014, Karnataka.

LAB REPORT
on

COMPUTER NETWORKS

Submitted by

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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)
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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 **Rijul R Patil (1BM19CS205),** 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 2022. The Lab report has been approved as it satisfies the academic requirements in respect of a **COMPUTER NETWORKS - (20CS5PCCON)** work prescribed for the said degree.

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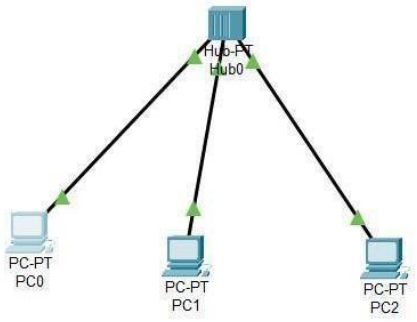
Index

Cycle-1 Experiment No 1

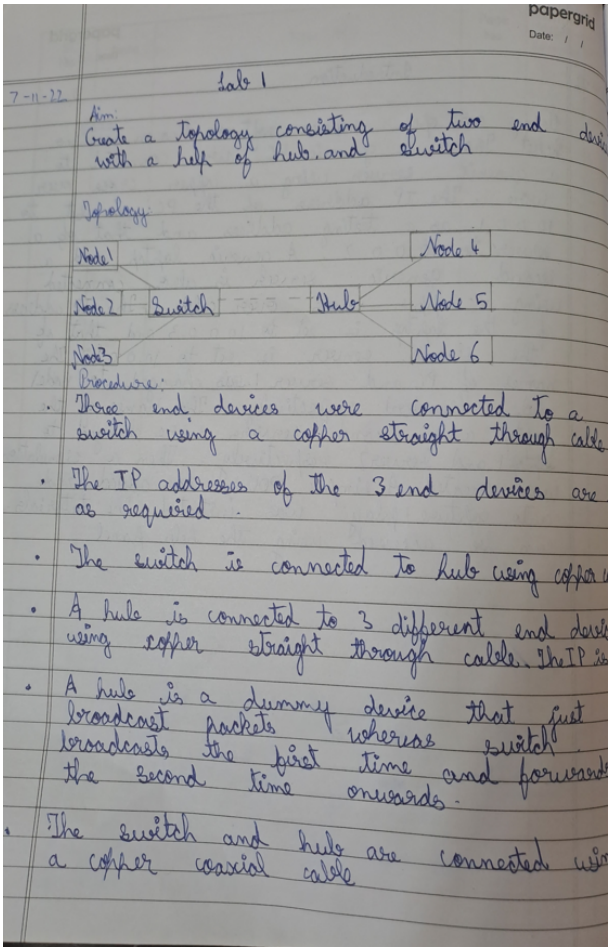
Aim of the program

Creating a topology and simulate sending a simple PDU from source to destination using hub and switch as connecting devices.

Hub Topology



Procedure


papergrid
Date: / /

7-11-22

Lab 1

Aim:
Create a topology consisting of two end devi
with a help of hub and switch

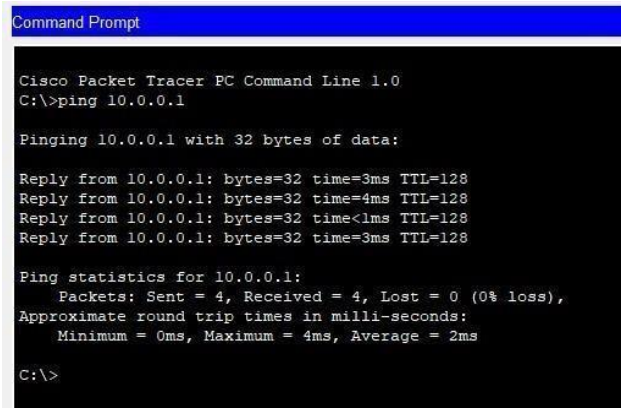
Topology

Node 1
Node 2
Node 3
Switch
Hub
Node 4
Node 5
Node 6

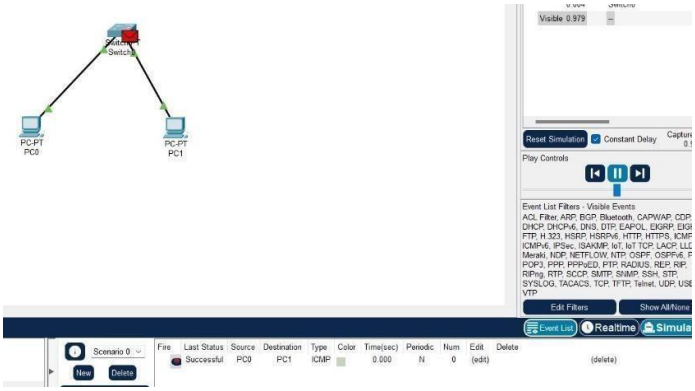
Procedure:

- Three end devices were connected to a switch using a copper straight through cable
- The IP addresses of the 3 end devices are as required.
- The switch is connected to hub using copper
- A hub is connected to 3 different end devi using copper straight through cable. The IP ad
- A hub is a dummy device that just broadcast packets whereas switch broadcasts the first time and forwards the second time onwards.
- The switch and hub are connected wi a copper coaxial cable

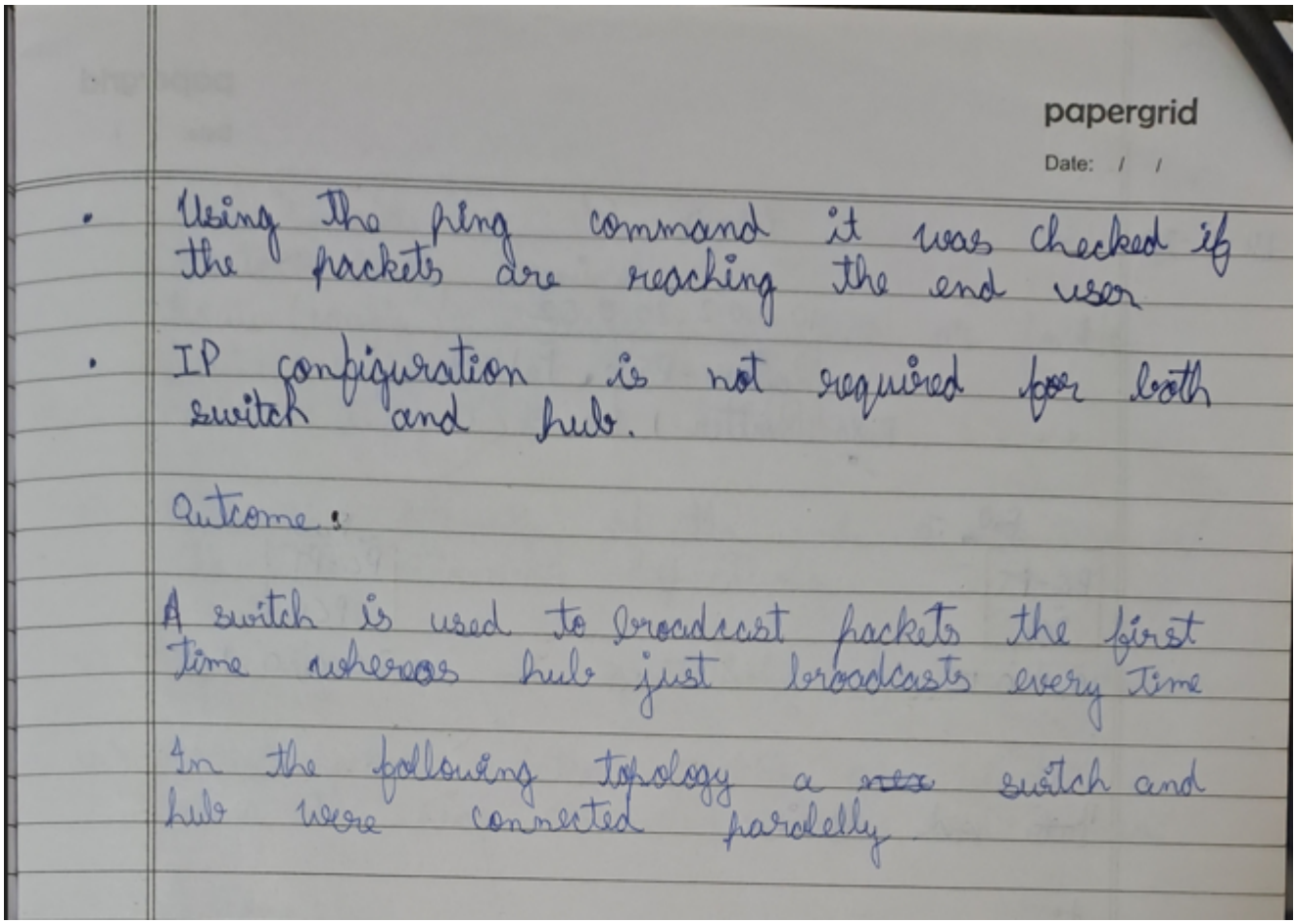
Output



Switch Topology



Procedure



papergrid

Date: / /

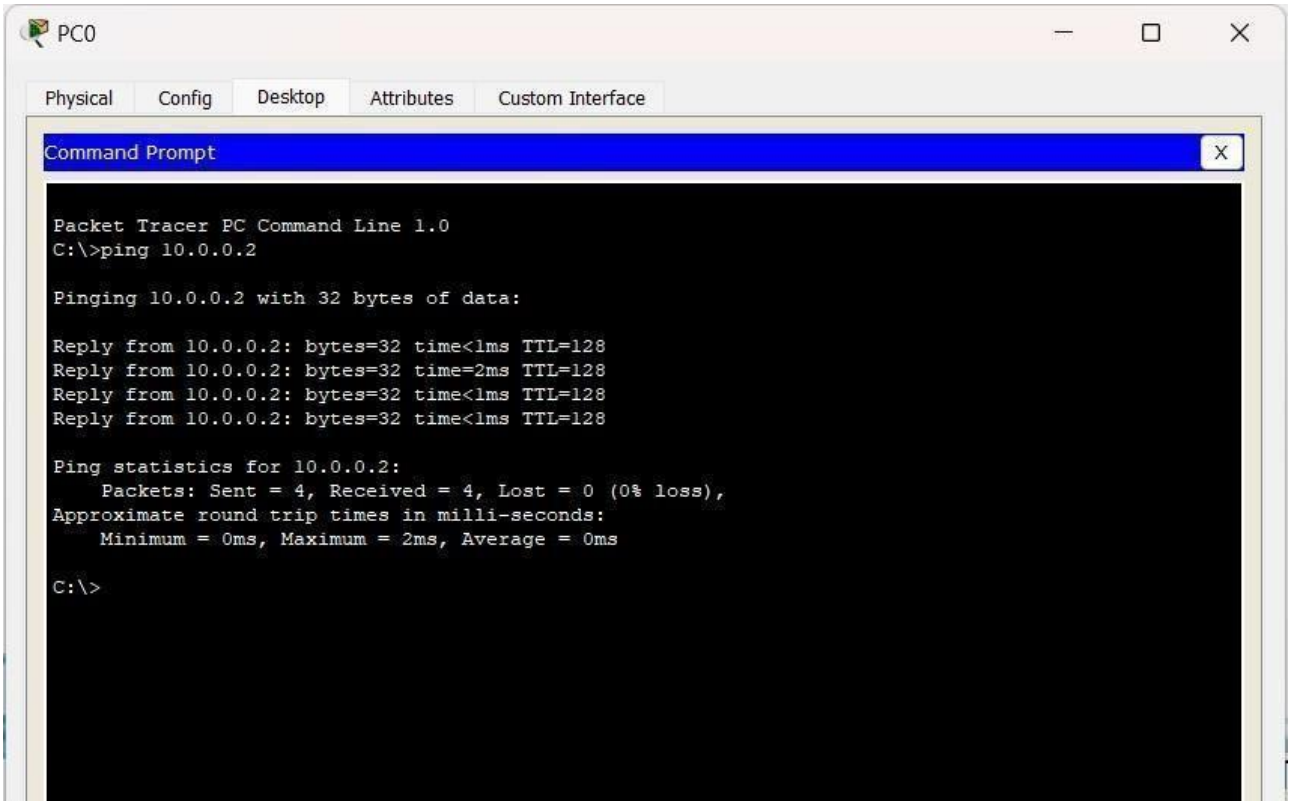
- Using the ping command it was checked if the packets are reaching the end user
- IP configuration is not required for both switch and hub.

Outcome:

A switch is used to broadcast packets the first time whereas hub just broadcasts every time

In the following topology a ~~res~~ switch and hub were connected parallelly

Output

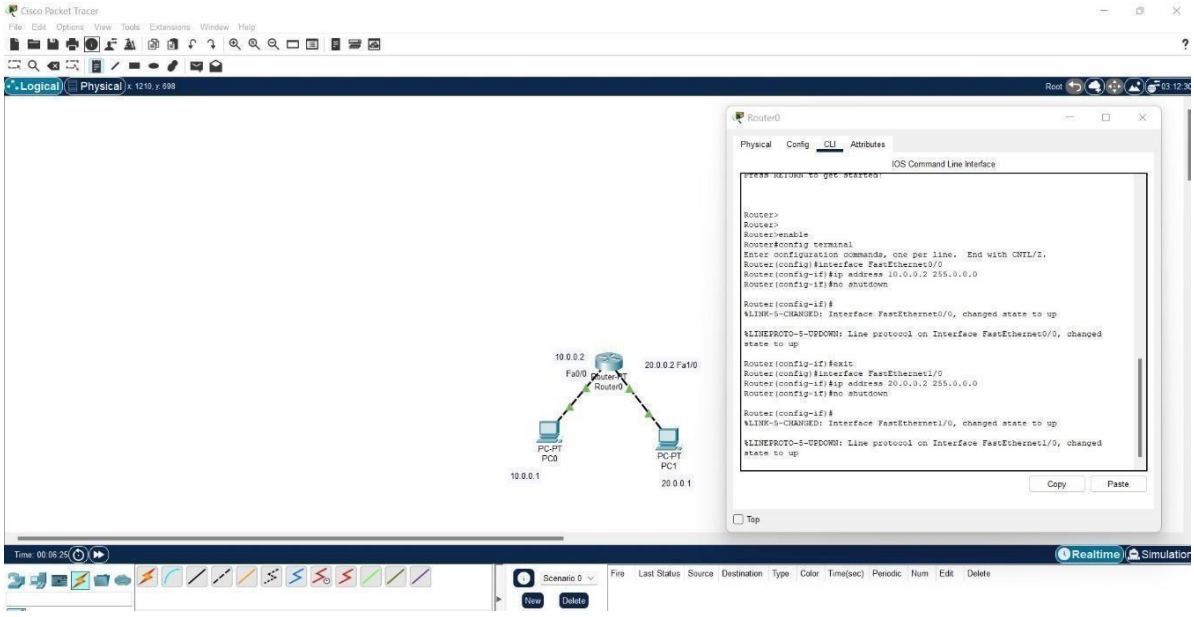

PC0
Physical
Config
Desktop
Attributes
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=2ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms 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 = 0ms, Maximum = 2ms, Average = 0ms
C:\>

Experiment No 2

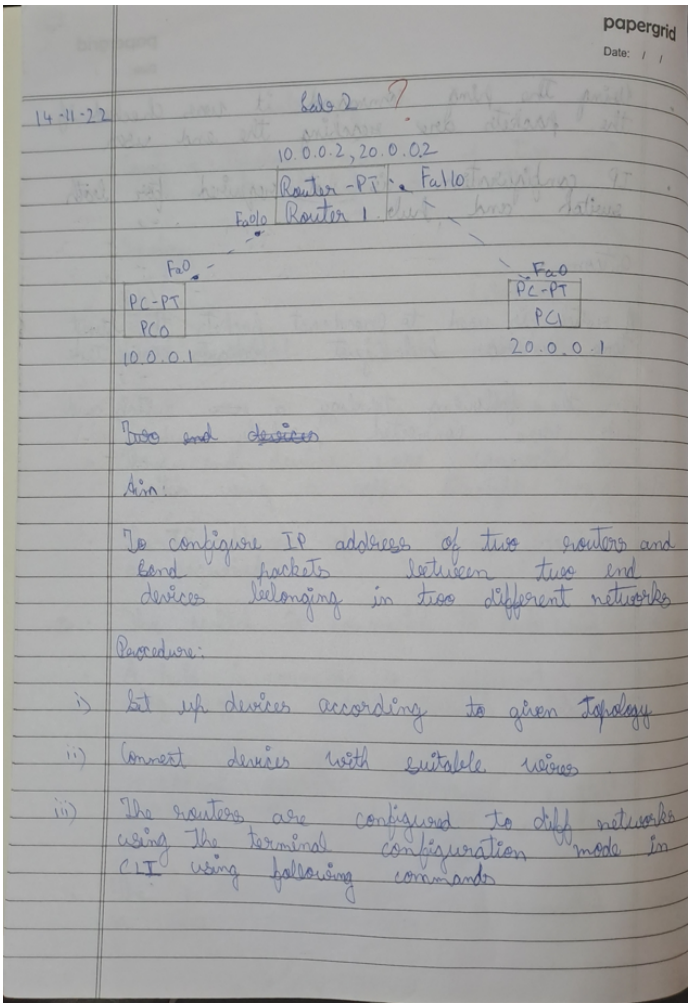
Aim of the program

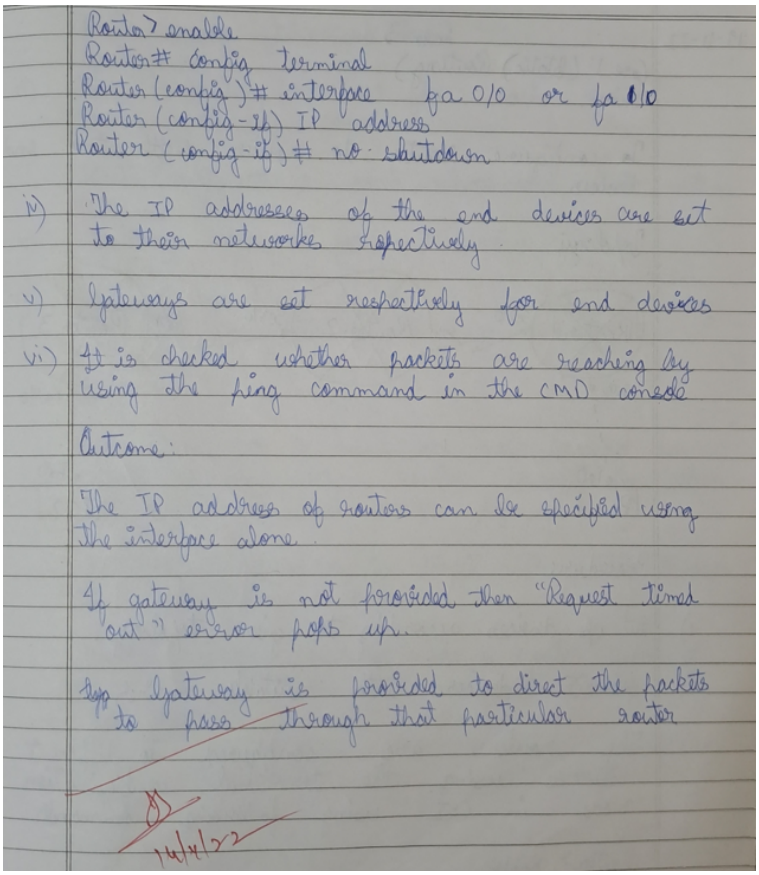
Configuring IP address to Routers in Packet Tracer. Exploring the following messages: Ping Responses, Destination unreachable, Request timed out, Reply.

Topology



Procedure


papergrid
Date: / /
14-11-22
Lab 2
10.0.0.2, 20.0.0.2
Router-PT
Fa1/0
Fa0/0
Router 1
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
20.0.0.1
Two end devices
Aim:
To configure IP address of two routers and send packets between two end devices belonging in two different networks
Procedure:
i) Set up devices according to given Topology
ii) Connect devices with suitable wires
iii) The routers are configured to diff networks using the terminal configuration mode in CLI using following commands


Router> enable
Router# config terminal
Router(config)# interface fa 0/0 or fa 0/0
Router(config-if) IP address
Router(config-if)# no shutdown

iv) The IP addresses of the end devices are set to their networks respectively.

v) Gateways are set respectively for end devices

vi) It is checked whether packets are reaching by using the ping command in the CMD console

Outcome:

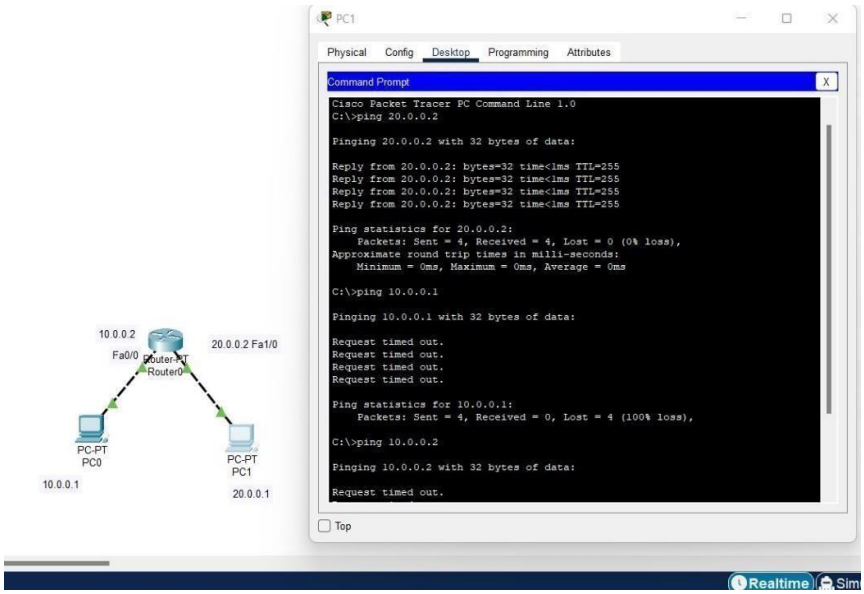
The IP address of routers can be specified using the interface alone.

If gateway is not provided then "Request timed out" error pops up.

Top Gateway is provided to direct the packets to pass through that particular router

14/4/22

Output

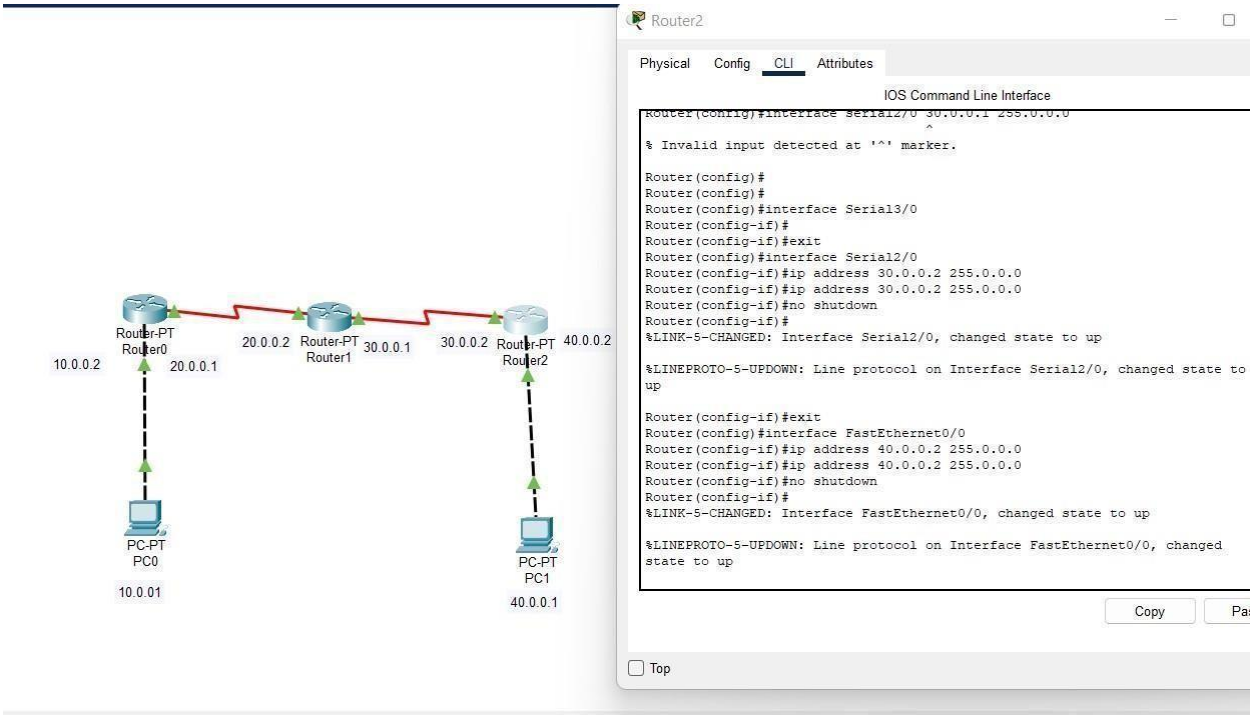

PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 20.0.0.2
Pinging 20.0.0.2 with 32 bytes of data:
Reply from 20.0.0.2: bytes=32 time<1ms TTL=255
Reply from 20.0.0.2: bytes=32 time<1ms TTL=255
Reply from 20.0.0.2: bytes=32 time<1ms TTL=255
Reply from 20.0.0.2: bytes=32 time<1ms TTL=255
Ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.0.0.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 10.0.0.2
Pinging 10.0.0.2 with 32 bytes of data:
Request timed out.
Top
10.0.0.2
Fa0/0
Router-PT
Router0
20.0.0.2 Fa1/0
PC-PT
PC0
10.0.0.1
PC-PT
PC1
20.0.0.1
Realtime

Experiment No 3

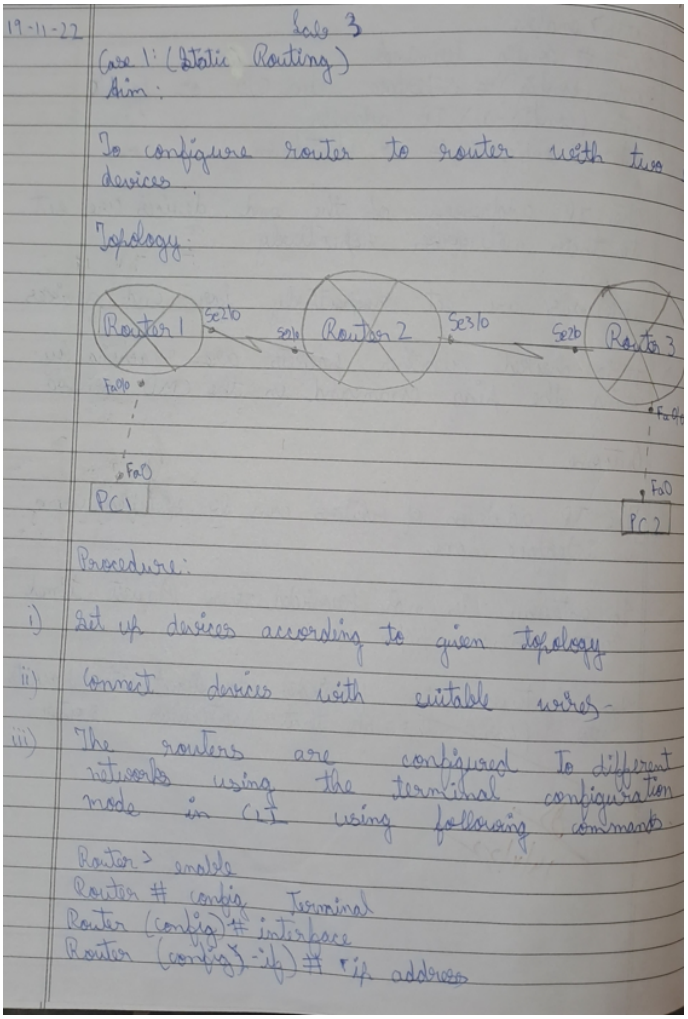
Aim of the program

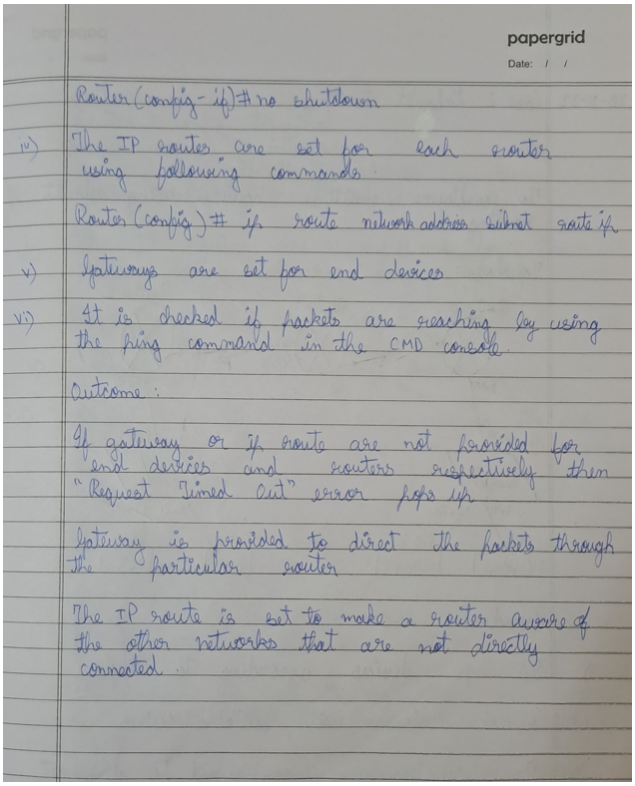
Configuring default route to the Router

Topology



Procedure


19-11-22
Lab 3
Case 1: (Static Routing)
Aim:
To configure router to router with two devices.
Topology:
Router 1
Router 2
Router 3
Se2/0
Se3/0
Fa0/0
Fa0
PC1
PC2
Procedure:
i) Set up devices according to given topology
ii) Connect devices with suitable wires.
iii) The routers are configured to different networks using the terminal configuration mode in CLI using following commands
Router > enable
Router # config Terminal
Router (config)# interface
Router (config-if) # ip address



papergrid

Date: / /

Router(config-if)# no shutdown

iv) The IP routes are set for each router using following commands

Router(config)# ip route network address subnet route ip

v) Gateways are set for end devices

vi) It is checked if packets are reaching by using the ping command in the CMD console

Outcome:

If gateway or ip route are not provided for end devices and routers respectively then "Request Timed Out" error pops up

Gateway is provided to direct the packets through the particular router

The IP route is set to make a router aware of the other networks that are not directly connected

Output

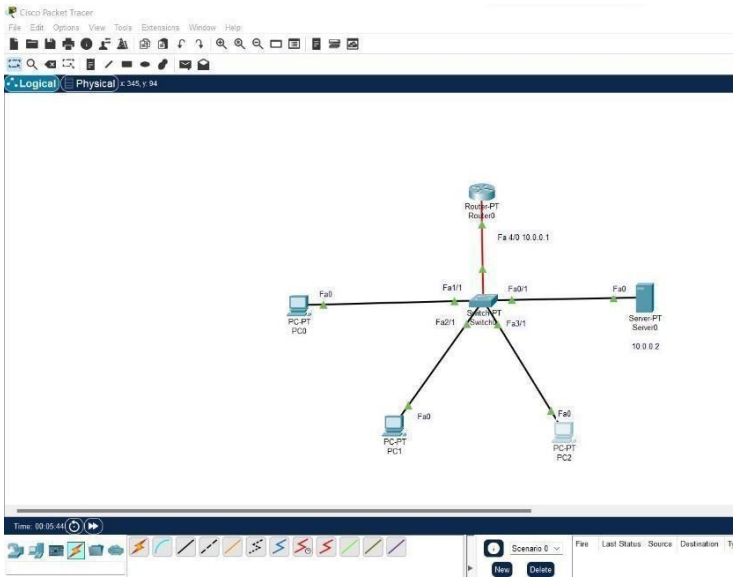
```
Packet Tracer PC Command Line 1.0
C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.
Reply from 10.0.0.10: Destination host unreachable.

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 10ms, Maximum = 10ms, Average = 10ms

C:\>
```

Experiment No 4

Aim of the program

Configuring DHCP within a LAN in a packet Tracer

Topology



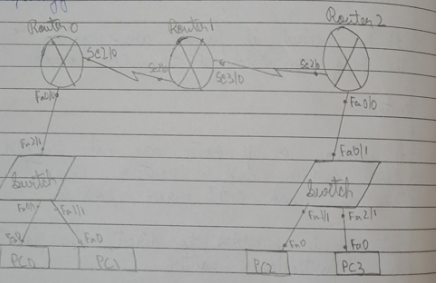
Procedure

28-11-22 Case 2: Default Routing

Aim:

To configure multiple routers using default routing.

Topology:



Procedure:

i) Set up devices according to topology

ii) Connect devices with suitable wires

iii) The routers are configured to different networks using the terminal configuration mode in CLI with following commands

Router> enable
Router # config terminal
Router (config) # interface
Router (config-if) # ip address
Router (config-if) # no shutdown

iv) The IP routes are configured for the routers using following commands

Router (config) # ip route 0.0.0.0 0.0.0.0 route ip address

v) Gateways are set for end devices

vi) It is checked if packets are reaching the end devices using command ping in the CMD console

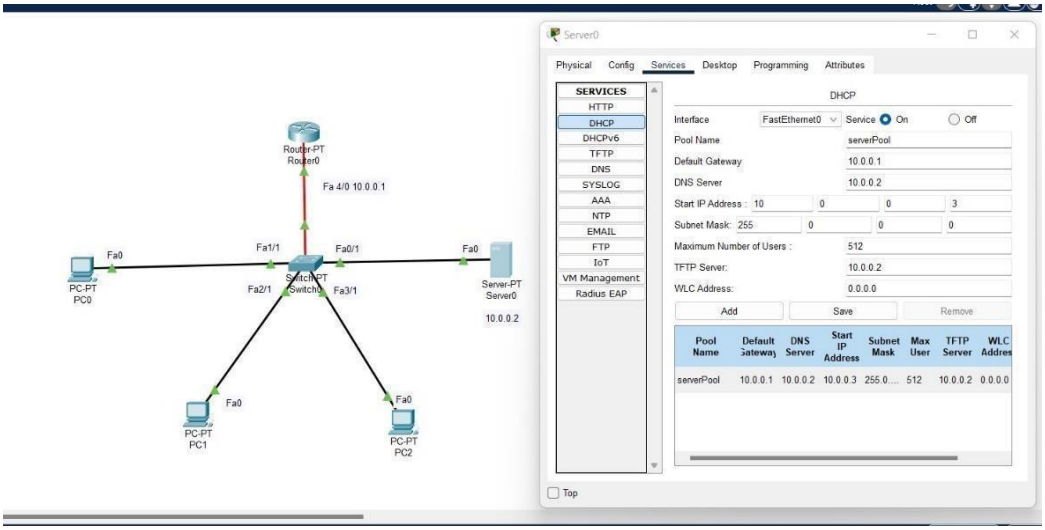
Outcome:

If gateway or IP route aren't given then "Request Timed Out" error for ping is

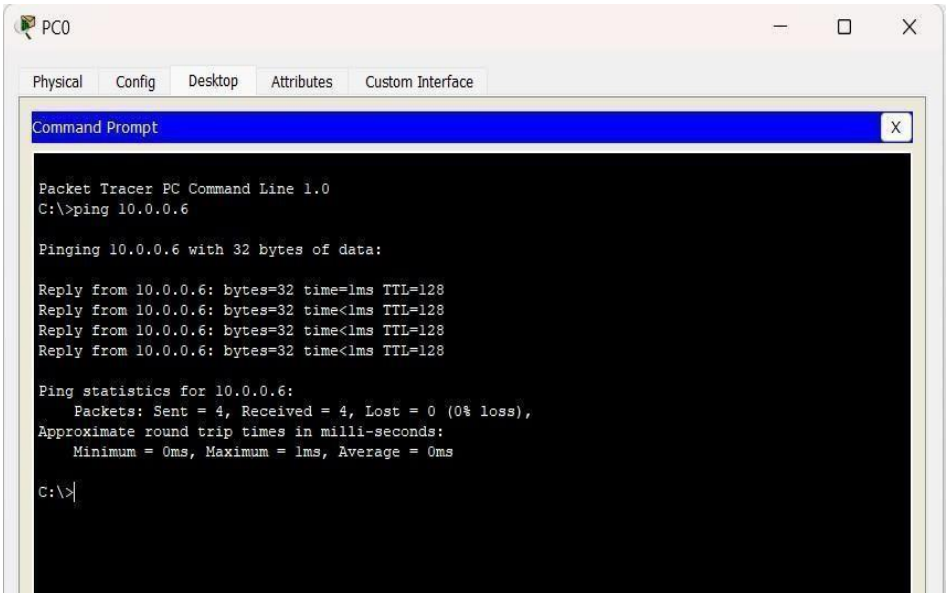
Gateway is provided to direct the packets through a particular router

The IP route is set to make the router aware of networks that are not directly connected

Unlike in static routing the network address and the subnet mask is not provided.


Router-PT
Router0
Fa 4/0 10.0.0.1
Fa0
Fa1/1
Fa0/1
Fa0
PC-PT
PC0
Fa2/1
Switch-PT
Switch0
Fa3/1
Server-PT
Server0
10.0.0.2
Fa0
Fa0
PC-PT
PC1
PC-PT
PC2
Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DHCP
Interface
FastEthernet0
Service
On
Off
Pool Name
serverPool
Default Gateway
10.0.0.1
DNS Server
10.0.0.2
Start IP Address :
10
0
0
3
Subnet Mask:
255
0
0
0
Maximum Number of Users :
512
TFTP Server:
10.0.0.2
WLC Address:
0.0.0.0
Add
Save
Remove
Pool Name
Default Gateway
DNS Server
Start IP Address
Subnet Mask
Max User
TFTP Server
WLC Address
serverPool
10.0.0.1
10.0.0.2
10.0.0.3
255.0....
512
10.0.0.2
0.0.0.0
Top

Output

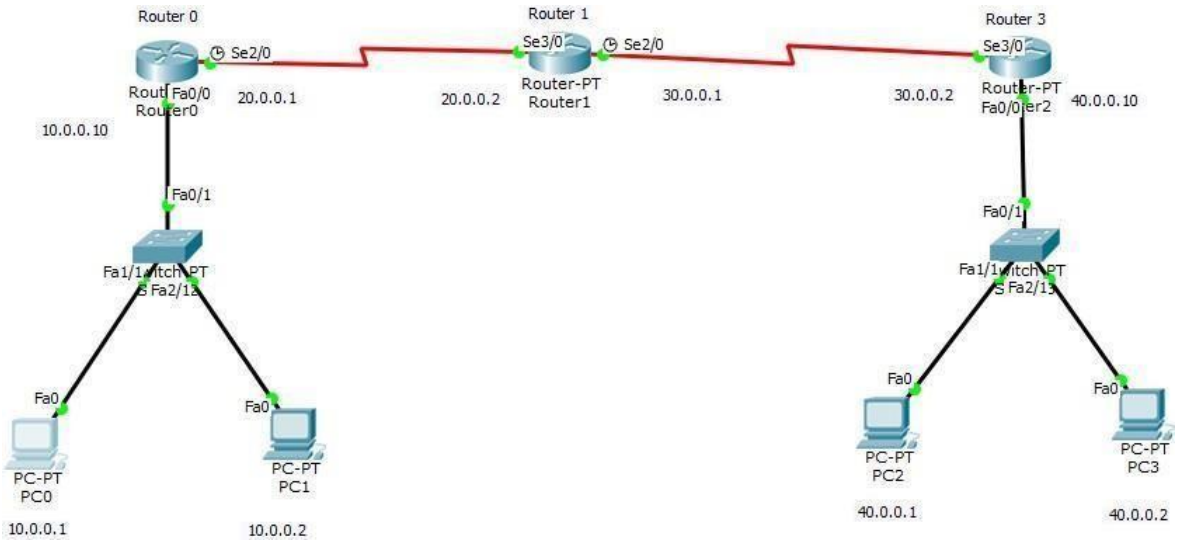

PC0
Physical
Config
Desktop
Attributes
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.6
Pinging 10.0.0.6 with 32 bytes of data:
Reply from 10.0.0.6: bytes=32 time=1ms TTL=128
Reply from 10.0.0.6: bytes=32 time<1ms TTL=128
Reply from 10.0.0.6: bytes=32 time<1ms TTL=128
Reply from 10.0.0.6: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.6:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>

Experiment No 5

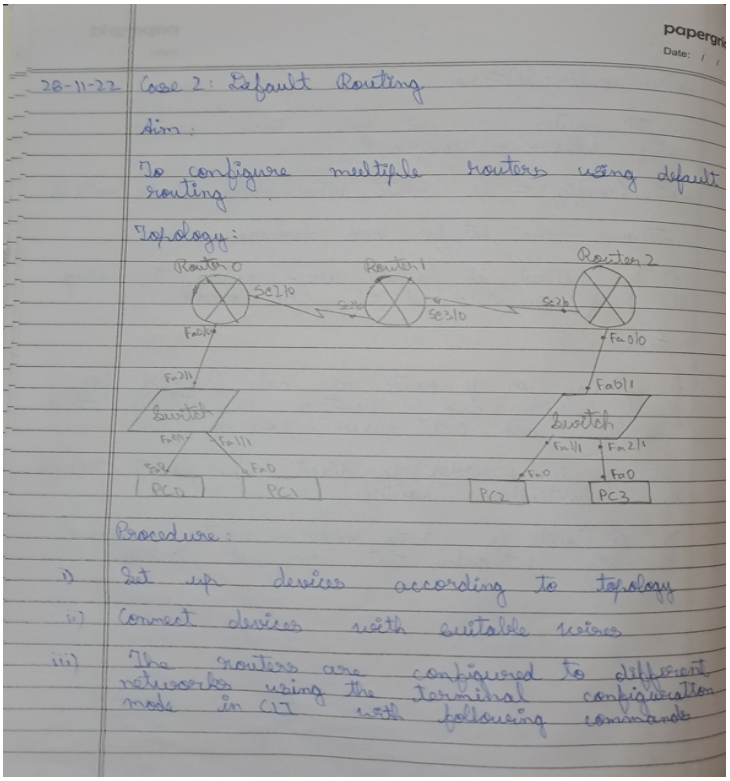
Aim of the program

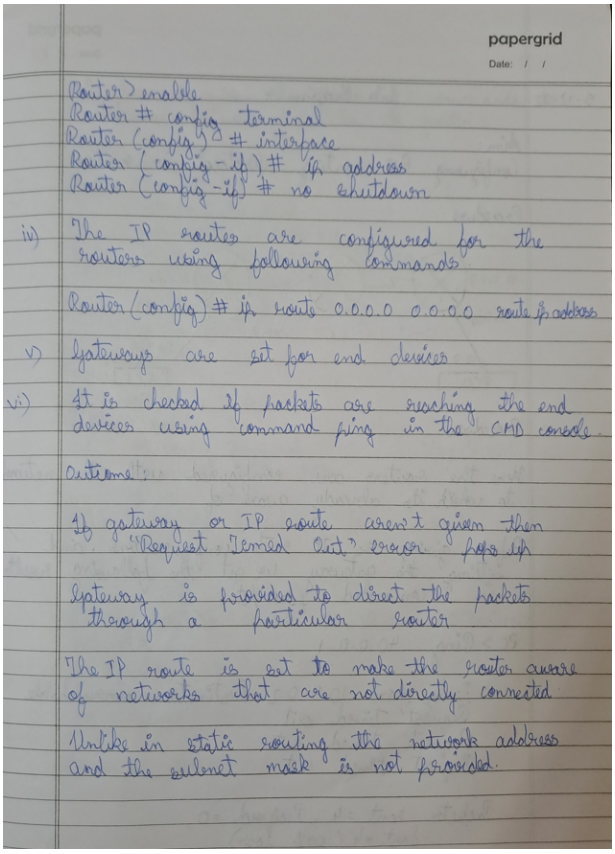
Configuring default router to router

Topology



Procedure





papergrid
Date: / /

Router> enable
Router # config terminal
Router (config) # interface
Router (config-if) # ip address
Router (config-if) # no shutdown

iv) The IP routes are configured for the routers using following commands

Router (config) # ip route 0.0.0.0 0.0.0.0 route ip address

v) Gateways are set for end devices

vi) It is checked if packets are reaching the end devices using command ping in the CMD console.

Outcome:

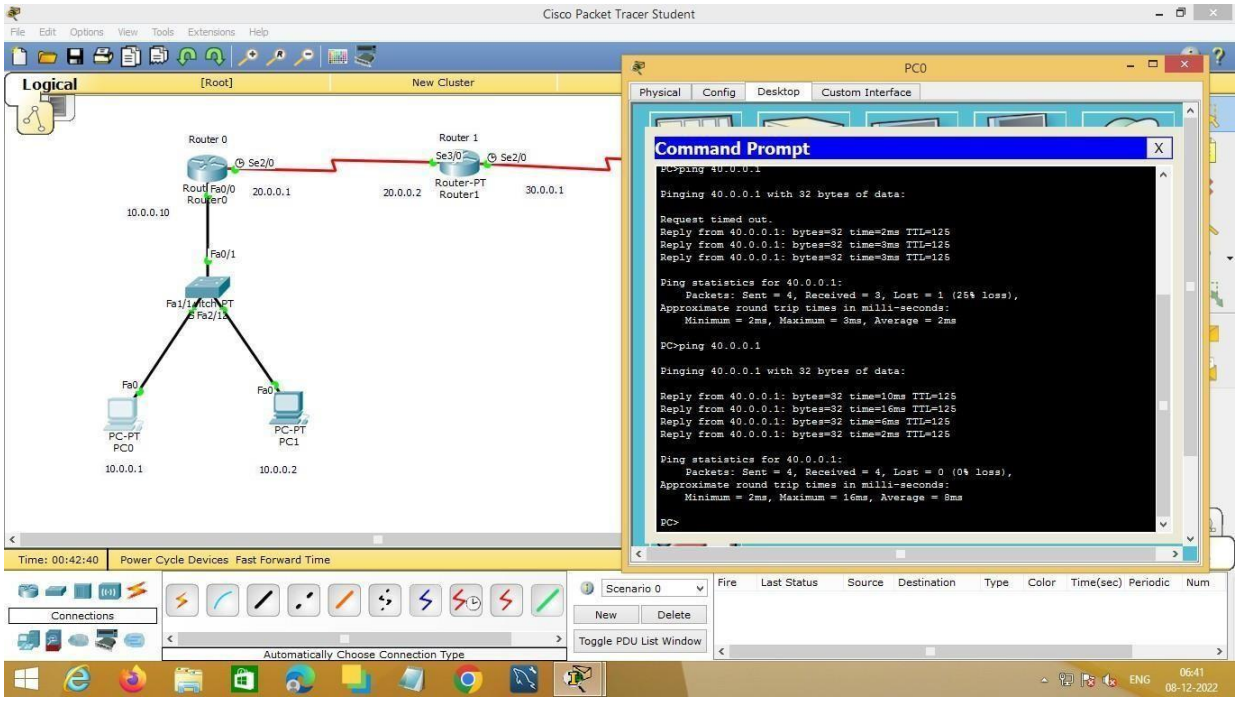
If gateway or IP route aren't given then "Request Timed Out" error pops up

Gateway is provided to direct the packets through a particular router

The IP route is set to make the router aware of networks that are not directly connected

Unlike in static routing the network address and the subnet mask is not provided.

Output

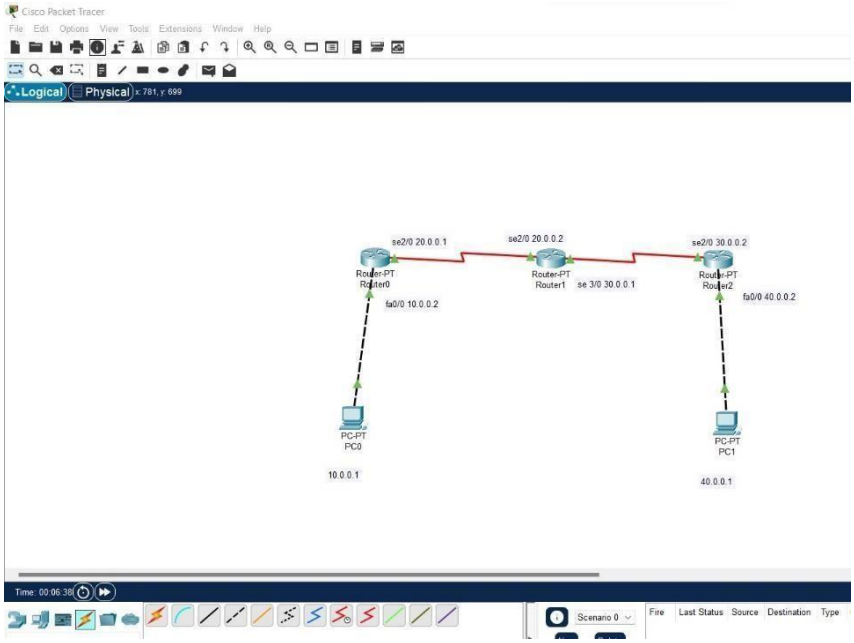

Cisco Packet Tracer Student
Logical
[Root]
New Cluster
Router 0
Router 1
Router-PT Router0
Router-PT Router1
Se2/0
Se3/0
Fa0/0
Fa0/1
10.0.0.10
20.0.0.1
20.0.0.2
30.0.0.1
PC-PT PC0
PC-PT PC1
10.0.0.1
10.0.0.2
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
PC>ping 40.0.0.1
Pinging 40.0.0.1 with 32 bytes of data:
Request timed out.
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125
Reply from 40.0.0.1: bytes=32 time=3ms TTL=125
Reply from 40.0.0.1: bytes=32 time=3ms TTL=125
Ping statistics for 40.0.0.1:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 3ms, Average = 2ms
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=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=16ms TTL=125
Reply from 40.0.0.1: bytes=32 time=6ms TTL=125
Reply from 40.0.0.1: bytes=32 time=2ms TTL=125
Ping statistics for 40.0.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 2ms, Maximum = 16ms, Average = 8ms
PC>
Time: 00:42:40
Power Cycle Devices
Fast Forward Time
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
ENG
06:41
08-12-2022

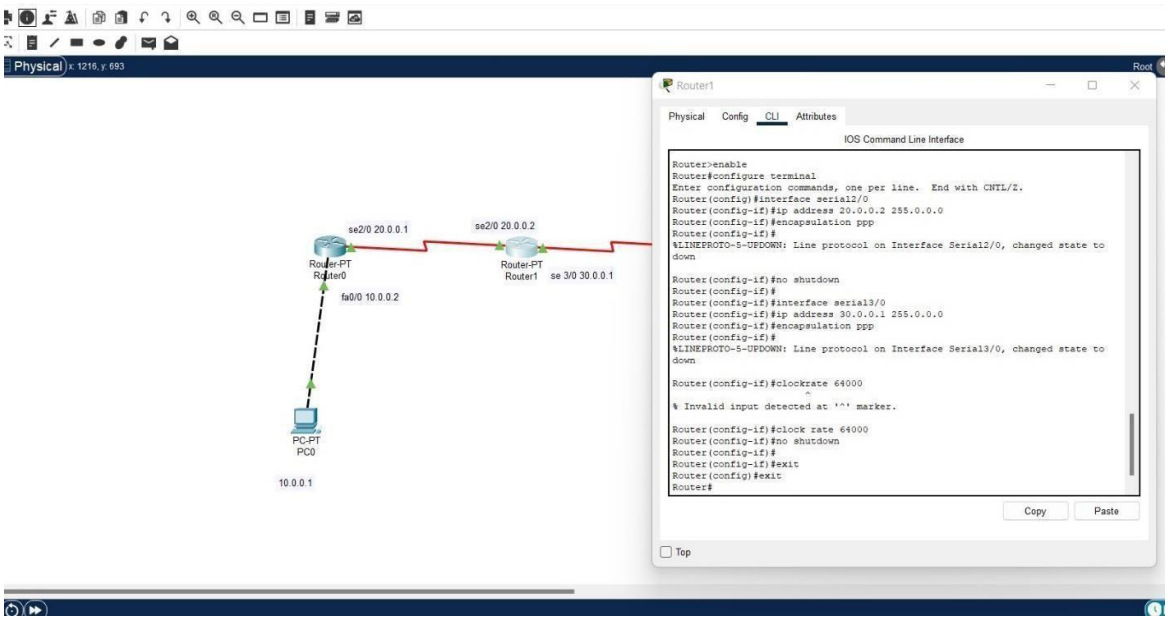
Experiment No 6

Aim of the program

Configuring RIP Routing Protocol in Routers

Topology



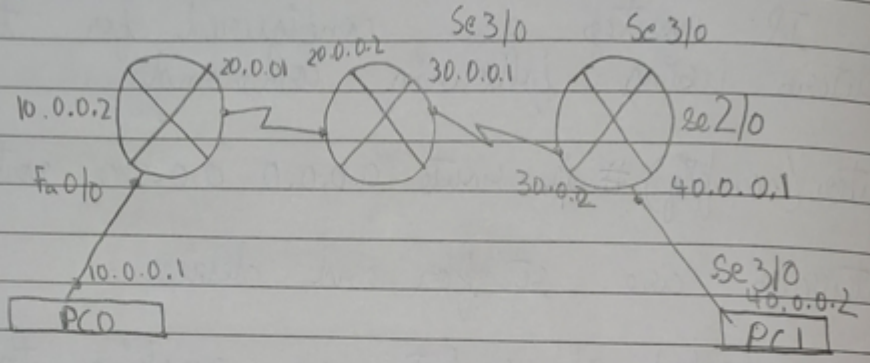


5-12-22

Lab Program 4

Aim:
Configuring RIP routing protocol in routers

Procedure:



Procedure:

Here the routers are configured with the netw
to which its already aware of

Before giving the IP route configurations and
setting the gateway we get the following resul
in command prompt

PC > Ping 40.0.0.1

Reply from 10.0.0.2 Destination unreachable
Request timed out
Request timed out
Request timed out

Packets sent = 4, Recieved = 0,
Lost = 4 (100% Loss)

We have to give the following commands to configure between router to router

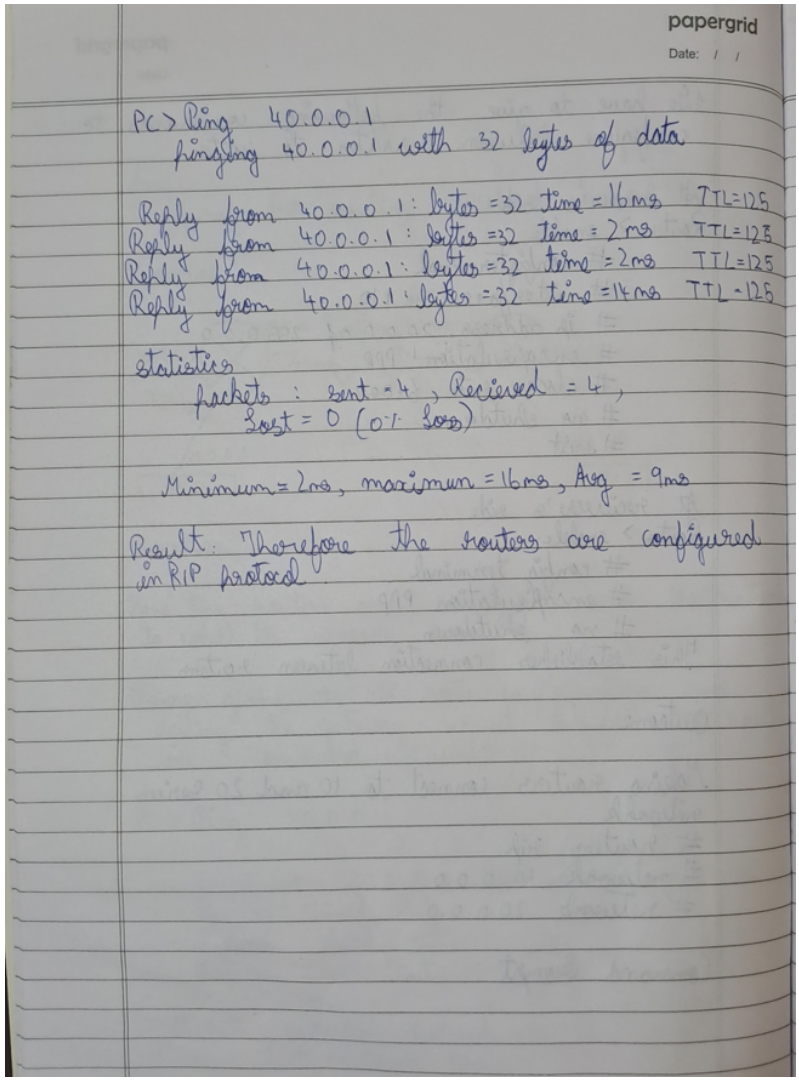
At Sender's side:
Router > enable
configterminal
interface Se 1/0
ip address 20.0.0.0 255.0.0.0
encapsulation PPP
clock rate 64000
no shutdown
exit

At reciever's side:
Router > enable
config terminal
encapsulation PPP
no shutdown
This establishes connection between routers.

Outcome:

Making routers connect to 10 and 20 series network
routers rip
network 10.0.0.0
network 20.0.0.0

Command Prompt:


papergrid
Date: / /

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 = 16ms TTL=125
Reply from 40.0.0.1 : bytes = 32 time = 2ms TTL=125
Reply from 40.0.0.1 : bytes = 32 time = 2ms TTL=125
Reply from 40.0.0.1 : bytes = 32 time = 14ms TTL=125

statistics
packets : sent = 4, Recieved = 4,
Lost = 0 (0% loss)

Minimum = 2ms, maximum = 16ms, Avg = 9ms

Result: Therefore the routers are configured in RIP protocol

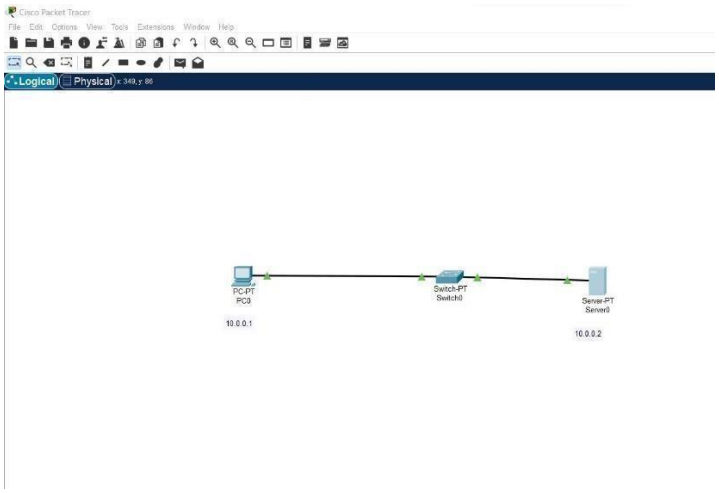
Output

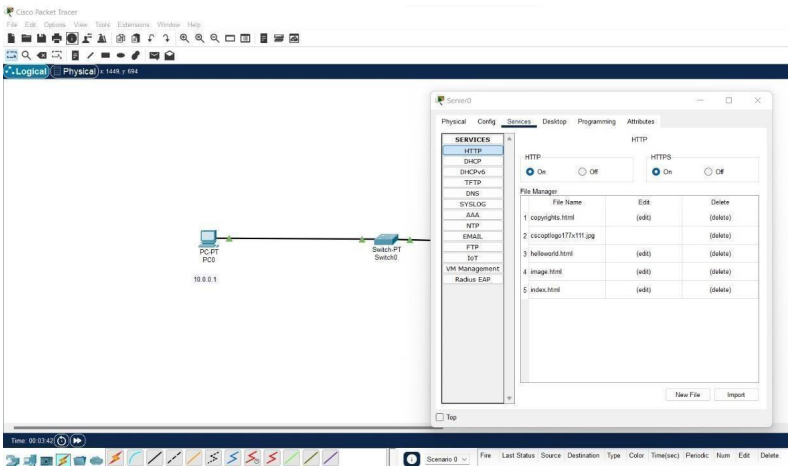
```
C:\>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.1: bytes=32 time=4ms TTL=125
Reply from 40.0.0.1: bytes=32 time=3ms TTL=125
Reply from 40.0.0.1: bytes=32 time=4ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 4ms, Average = 3ms

C:\>
```

Experiment No 7 Aim of the program

Demonstration of WEB server and DNS using Packet Tracer

Topology





papergrid

Date: / /

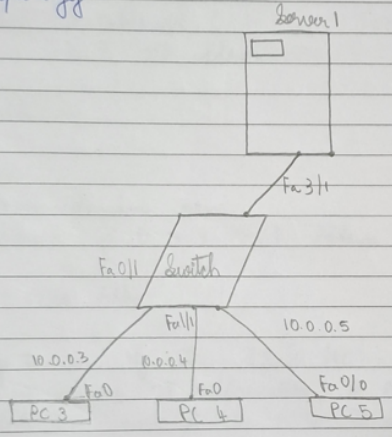
12-12-22

Lab 6

Aim:

Demonstration of WEB services and DNS using packet tracer

Topology:



Procedure:

Server -> config -> fast Ethernet (manually give the ip address first) -> Services -> HTTP (ON) -> DHCP (ON) -> DNS

HTTP:
Switch it on
Edit in file manager

DACP
Pool name
DNS Server address
Start IP address
NO TFTP IP address

Add

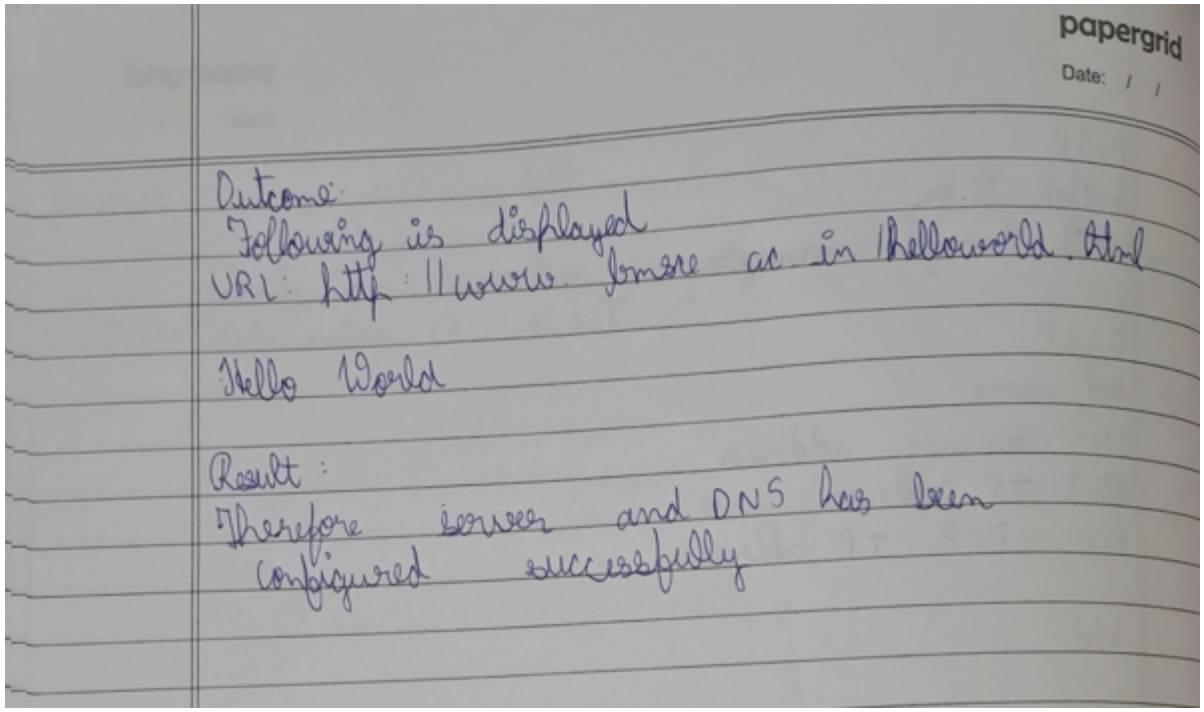
DNS:
Name: Random name
Address: 10.0.0.1 -> IP Address of server

Click Add

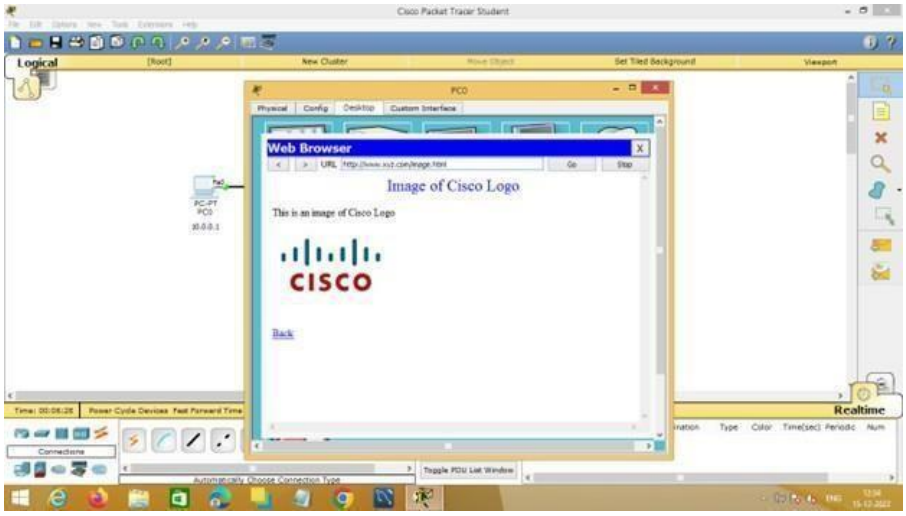
Go to one of the clients / PC:
we change IP configuration to DHCP from static
and then we get the PC's IP address automatically

Desktop -> web browser ->
Syntax:
www.rijil.com / helloworld.html

File -> helloworld
Contents of helloworld


papergrid
Date: / /
Outcome:
Following is displayed
URL: http://www.lamare.ac.in/helloworld.html
Hello World
Result:
Therefore server and DNS has been
configured successfully

Output


Cisco Packet Tracer Student
Logical
PC0
Physical
Config
Desktop
Custom Interface
Web Browser
Image of Cisco Logo
This is an image of Cisco Logo
CISCO
Back
Realtime

Cycle-2 Experiment No 1

Aim of the Experiment

Write a program for error detecting code using CRC-CCITT (16-bits).

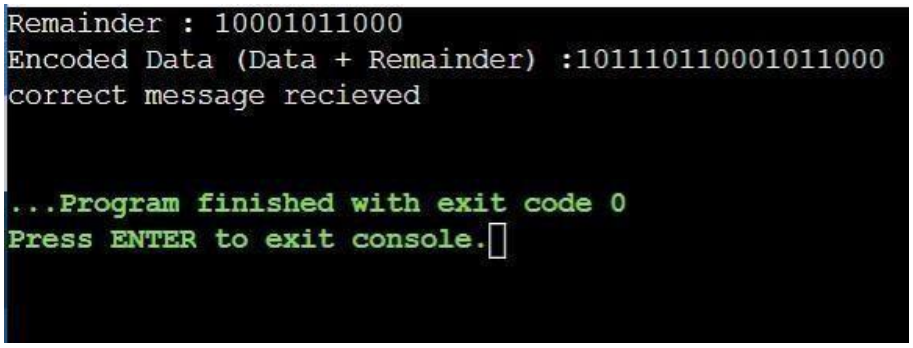
Code

```
#include<bits/stdc++.h> using
namespace std; void receiver(string
data, string key);

string xor1(string a, string b)
{

        string result = "";

        int n = b.length();

        for(int i = 1; i < n; i++)
        {
                if (a[i] == b[i])
                        result += "0";
else
                        result += "1";
        }
        return result;
}

string mod2div(string dividend, string divisor)
{
        int pick = divisor.length();
```

```
        string tmp = dividend.substr(0, pick);

        int n = dividend.length();

         while (pick < n)
        {
                if (tmp[0] == '1')                              tmp =
xor1(divisor, tmp) + dividend[pick];
                else
                        tmp = xor1(std::string(pick, '0'), tmp) +
                                dividend[pick];

                 pick += 1;
        }
        if (tmp[0] == '1')
tmp = xor1(divisor, tmp);
        else
                 tmp = xor1(std::string(pick, '0'), tmp);

        return tmp;
}

void encodeData(string data, string key)
{
         int l_key = key.length();

            string appended_data = (data +std::string(l_key - 1, '0'));

         string remainder = mod2div(appended_data, key);
```

```
        string codeword = data + remainder;
cout << "Remainder : "
                << remainder << "\n";
          cout << "Encoded Data (Data + Remainder) :"
                << codeword << "\n";
         receiver(codeword, key);
}
void receiver(string data, string key)
{       string currxor = mod2div(data.substr(0, key.size()), key);
int curr = key.size();      while (curr != data.size())
        {
                if (currxor.size() != key.size())
                {
                        currxor.push_back(data[curr++]);
                }
                else
                {
                        currxor = mod2div(currxor, key);
                }
        }
          if (currxor.size() == key.size())
        {
                currxor = mod2div(currxor, key);
        }
        if (currxor.find('1') != string::npos)
        {       cout << "there is some error in data" << endl;
        }
        else
```

```
        {
                cout << "correct message recieved" << endl;
        }
} int
main()
{

        string data = "1011101";
string key = "1000100000001";

         encodeData(data, key);

        return 0;
}
```



Experiment No 2

Aim of the Experiment

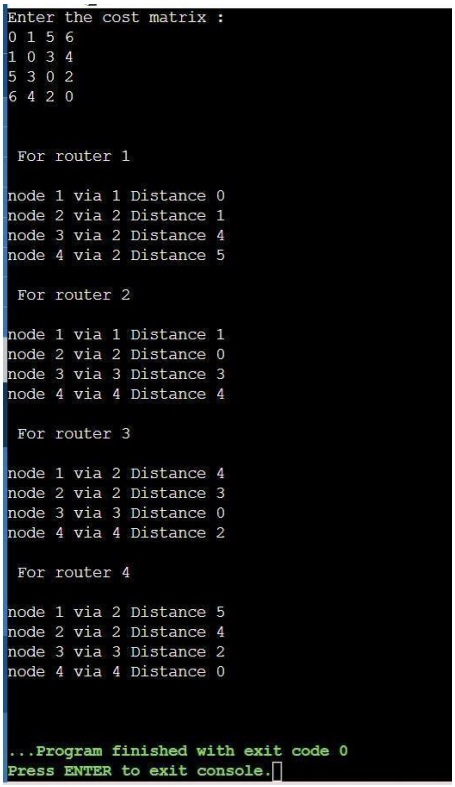
Write a program for distance vector algorithm to find suitable path for transmission.

Code

```
#include<stdio.h>
                    struct node
                    {
                        unsigned dist[20];
                        unsigned from[20];
                    }rt[10];
                    int main()
                    {
                        int costmat[20][20];
                        int nodes,i,j,k,count=0;
                          printf("\nEnter the number of nodes :
                                                  ");
                        scanf("%d",&nodes);//Enter the nodes
                        printf("\nEnter the cost matrix :\n");
                        for(i=0;i<nodes;i++)
                        {
                            for(j=0;j<nodes;j++)
                            {
                                scanf("%d",&costmat[i][j]);
                                costmat[i][i]=0;
                                rt[i].dist[j]=costmat[i][j];//initialise the distance equal
                    to cost matrix
                                rt[i].from[j]=j;
                            }
                        }
                            do
                            {
                                count=0;
                                for(i=0;i<nodes;i++)//We choose arbitary vertex k and we
                    calculate the direct distance from the node i to k using the cost
                    matrix
                                //and add the distance from k to node j
                                for(j=0;j<nodes;j++)
                                for(k=0;k<nodes;k++)
                                    if(rt[i].dist[j]>costmat[i][k]+rt[k].dist[j])
                                    {//We calculate the minimum distance
                                        rt[i].dist[j]=rt[i].dist[k]+rt[k].dist[j];
```

```
                        rt[i].from[j]=k;
                        count++;
                    }
            }while(count!=0);
            for(i=0;i<nodes;i++)
            {
                printf("\n\n For router %d\n",i+1);
                for(j=0;j<nodes;j++)
                {
                    printf("\t\nnode %d via %d Distance %d
",j+1,rt[i].from[j]+1,rt[i].dist[j]);
                }
            }
        printf("\n\n");
        getch();
}
```

Output



Experiment No 3

Aim of the Experiment

Implement Dijkstra's algorithm to compute the shortest path for a given topology.

Code

```
#include<bits/stdc++.h>
                            #include <limits.h>
                            #include <stdio.h>
                             using namespace std;

                            #define V 5


                            int minDistance(int dist[], bool Test[])
                            {

                                int min = INT_MAX, min_index;

                                for (int v = 0; v < V; v++)
                                    if ( Test[v] == false && dist[v] <= min)
                                        min = dist[v], min_index = v;

                                return min_index;
                            }


                            void printSolution(int dist[])
                            {
                                printf("Vertex \t\t Distance from Source\n");
                                for (int i = 0; i < V; i++)
                                    printf("%d \t\t %d\n", i, dist[i]);
                            }


                            void dijkstra(int graph[V][V], int src)
                            {
                                int dist[V];
                                bool Test[V];
                                for (int i = 0; i < V; i++)
                                    dist[i] = INT_MAX, Test[i] = false;
```

```
    dist[src] = 0;


    for (int count = 0; count < V - 1; count++) {

        int u = minDistance(dist, Test);


        Test[u] = true;


        for (int v = 0; v < V; v++)


            if (!Test[v] && graph[u][v] && dist[u] != INT_MAX
                && dist[u] + graph[u][v] < dist[v])
                dist[v] = dist[u] + graph[u][v];
    }


    printSolution(dist);
}


int main()
{

    int graph[V][V] ;
    cout<<"Enter the graph "<<endl;
    for(int i = 0; i<V; i++)
    {
        for(int j = 0; j<V; j++)
            cin>>graph[i][j];
    }

    dijkstra(graph, 0);

    return 0;
}
```

Output

```
Enter the graph
0 1 4 0 5
1 0 3 6 0
4 3 0 0 6
0 6 0 0 10
5 0 6 10 0
Vertex              Distance from Source
0                   0
1                   1
2                   4
3                   7
4                   5
```

Experiment No 4

Aim of the Experiment

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.

Code

Server:

```
from socket import * serverName = '' serverPort =
12530 serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind((serverName,serverPort))
serverSocket.listen(1) print("The server is ready to
receive") while 1:
   connectionSocket, addr = serverSocket.accept()
sentence = connectionSocket.recv(1024).decode()     try:
      file = open(sentence,"r")       l
= file.read(1024)
connectionSocket.send(l.encode())
file.close()     except Exception as e:
      message = "No such file exist"
connectionSocket.send(message.encode())
connectionSocket.close()
```

Client:

```
from socket import *
serverName =
'192.168.1.104'
serverPort = 12530
clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((serverName,serverPort))
sentence = input("Enter file name")
clientSocket.send(sentence.encode()) filecontents =
clientSocket.recv(1024).decode() print ('From Server:',
filecontents) clientSocket.close()
```

Experiment No 5

Aim of the Experiment

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.

Code

Server:

```
from socket import * serverPort

= 12000

serverSocket = socket(AF_INET, SOCK_DGRAM)

serverSocket.bind(("127.0.0.1", serverPort)) print("The

server is ready to receive") while 1:

    sentence,clientAddress = serverSocket.recvfrom(2048)


    file=open(sentence,"r")      l=file.read(2048)


    serverSocket.sendto(bytes(l,"utf-8"),clientAddress

) print("sent back to client",l)    file.close() Client:

from socket import * serverName = "127.0.0.1"

serverPort = 12000 clientSocket = socket(AF_INET,

SOCK_DGRAM)


sentence = input("Enter file name") clientSocket.sendto(bytes(sentence,"utf-8"),(serverName,

serverPort)) filecontents,serverAddress = clientSocket.recvfrom(2048) print ('From Server:',

filecontents)


clientSocket.close()
```