

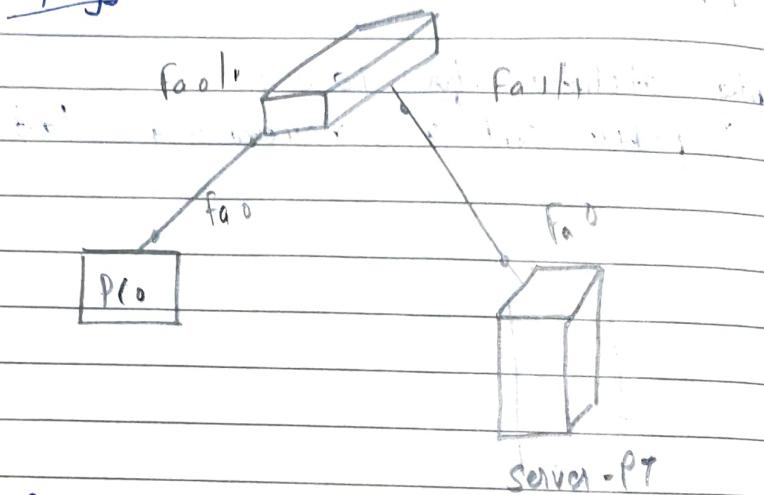
15/12/21

Lab 6

Date _____
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- A Aim: Demonstration of WEB servers & Dns using Packet Tracer

- B Topology:



- C Procedure:

Set the IP address of the pc and the server respectively as 10.0.0.2 and 10.0.0.1

Open web-browser in desktop tab of PC and type IP of server "http://10.0.0.2"

Default home page will be displayed

Now go to the services tab of server enable HTTP and change content of index.htm by clicking edit option.

check again in browser of PC to see the updated changes.

- B

Activate

enable

enter the

need to b

I "c

- click

- now g

it's disp

- C

Custom

- create a
in http

- change
created A

- web
PC by

(Q) question

→ We can
"cm" in

is map

name

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15/12/2022
29/12/2022

Q Activate DNS :-

- enable DNS on DNS service to activate it
- enter the domain name and IP address need to be mapped.

["cn" → 10.0.0.2]

- click add to add the new mapping
- now give name in the web browser to check if its displaying index.html

A Custom page:

- create a new page resum.html and save it in http services.
- change hyperlink in index.html to link the above created file
- check the output in the web browser or press by clicking on hyperlink.

* Observation Observation

- We can view the webpage when we type "cn" in browser because 10.0.0.2 address is mapped to the name "cn" by domain name system concept.
- Mapping is required because it's difficult for users to remember if IP is mapped with a name.

WU
12-2022
29-12-2022

Result:

From the Web Browser we can see this message.

Content http://192.168.1.101:8080/index.html

Name

Result http://192.168.1.101:8080/index.html

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Kankishit Prakash Bhojanash

Skills C, C++, MERN DSA

College BMSCE

Aim:

#include

#include

#define

char

char

char

int

void

for

char

if

else

do

while

for

switch

case

default

break

return

cout

<<

endl

Estimated time required

first semester project will take

minimum 6 months maximum 1 year

but if you have good knowledge of

HTML, CSS, JS

you can do it in 3 months

so if you are willing to give

more time you can do it in 6 months

so if you are willing to give

more time you can do it in 1 year

Lab 7 (crc)

Date _____

27/11/22
2022

Aim: Write a program for error detection for CRC-16

#include <stdio.h>

#include <string.h>

#define N strlen(gm-poles)

char data[28];

char check-value[28];

char gm-polos[16];

int data-length, i, j;

void XOR()

for (j = 1; j < n; j++)

check-value[j] = (check-value[j] ^ gm-polos[j]) ?

0 : 1;

}

void reverse()

printf("Enter the reveresd data:");

scanf("%s", &data);

printf("Data: %s", data);

printf("Data: reveresd %s", data);

crc(2)

for (i = 0; i < n - 1; i++) {

if (R[i] == 1)

printf("Error detected in bit %i", i + 1);

else

printf("No Error detected in %i"),

void main()

for ($j=0$; $j < N$; $j++$)
 chek_valu[i] = data[i]);

do {

 if (chek_valu[0] == '1')
 error();

for ($j=0$; $j < N$; $j++$)

 chek_valu[j] = chek_valu[j+1];

 chek_valu[j] = data[j+1];

}

 while ($i <= \text{data_length} + N - 1$);

}

int main() {

printf("Enter data to be transferred: ");

scanf("%s", data);

printf("Enter the Gen polynomial: ");

scanf("%s", genpoly);

data_length = strlen(data);

for ($i=\text{data_length}$; $i < \text{data_length} + N - 1$; $i++$)

 data[i] = '0';

printf("Data padded with %d zero's: ", data);

or

printf("in CRC on chek_valu ");

data[N] = chek_valu[N - data_length];

print ("In find data to be sent: '%', deh),

return U1

return O1

↓

OK

Ent th deh : 100010000001000 |
10001000000100001 n¹⁶ + n¹² + n⁵ + 1

Ent poly : 101101 G8

Data padded ī n-1 : 1000100000100001000000

(RL or ch Value :: (11021))

for ch sat : 100100001000101011

With th record deh : 100010000010000101021

Dm record : 100010000010000101021

No err. detected

✓

5/1/23

★ Leaky Bucket ★

Aim:

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

```
#include <bitr/stdc++.h>
```

```
#include <unistd.h>
```

```
using namespace std;
```

```
#define bucketSize 500
```

```
void bucketInput (int a, int b)
```

```
{
```

```
if (a > bucketSize)
```

```
cout << "Leaky Bucket overflow";
```

```
else
```

```
[
```

```
sleep(5);
```

```
while (a > b)
```

```
{
```

```
cout << "Leaky Bucket output";
```

```
a -= b;
```

```
sleep(5);
```

```
}
```

```
if (a > 0)
```

```
cout << "Last" << a << "bytes sent";
```

```
cout << "Bucket Output successful";
```

```
}
```

int main ()

{

int op, pltsize;

cout << "Enter output rate:";

cin >> op;

for (int i=1; i<=5; i+1)

{ sleep(rand() % 10);

pltsize = rand() % 70;

cout << " Packt. no" << i << " Packt size = " <<

pltsize;

bucketInpt(pltsize, op);

}

cout << "

return;

}

Enter output rate = 10

Packt no 1

Packt size = 186

2
200 50

300
50 50

50
50

so bytes output.

so bytes output

so bytes output

Last 36 bytes.

Packet output success.

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Packet no 2

Packet size = 218

so bytes output.

so byte output.

so bytes output.

last 11 bytes sent.

Bucket output successful.

Pkt no 3

Packet size = 538

Bucket overflow.

Packet no 4

Packet size = 491

so bytes output.

so bytes output.

so bytes output.

so bytes output

Last 42 bytes sent

Bucket output successful.

✓ Pkt no 5

Packet size = 521

Bucket overflow

Pkt overflow

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Aim: Write a program for dijkstra's Algo to find shortest path.
~~Write a program to implement Dijkstra's algorithm~~
in linear time.

Work a program to implement Bellman Ford Algorithm

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int Bellman_Ford ( int G [20][20], int V, int E,  
                    int edge [20][17] )
```

```
{
```

```
    int i, u, v, k, distance [20], parent [20], s, flag = 1;
```

```
    for ( i = 0; i < V; i++ )
```

```
        distance [i] = 1000, parent [i] = -1;
```

```
    printf (" Enter source: ");
```

```
    scanf ("%d", &s);
```

```
    distance [s-1] = 0;
```

```
    for ( i = 0; i < V-1; i++ )
```

```
{
```

```
        for ( k = 0; k < E; k++ )
```

```
{
```

```
            u = edge [k][0], v = edge [k][1];
```

```
            if ( distance [u] + G [u][v] < distance [v] )
```

```
                distance [v] = distance [u] + G [u][v];
```

```
                parent [v] = u;
```

```
}
```

```
}
```

for ($h = 0$; $h < E$; $h + 1$)

{

$u = \text{edge}[h][0]$ $v = \text{edge}[h][1]$
 if ($\text{distance}[u] + G[u][v] < \text{distance}[v]$)
 flag = 0;

if (Flag)

 for ($i = 0$; $i < V$; $i + 1$)

 printf ("Vertex %d → cost = %d pair
 = %d/n", $i + 1$, $\text{distance}[i]$, $\text{path}[i][0]$);

 return flag;

}

int main()

{

 int V, edge[20][20], G[20][20], i, j, h = 0;

 printf ("Bellman Ford\n");

 printf ("Enter no of vertices : ");

 scanf ("%d", &V);

 printf ("Enter graph in matrix form :\n");

 for ($i = 0$; $i < V$; $i + 1$)

 for ($j = 0$; $j < V$; $j + 1$)

{

 scanf (" %d", &G[i][j]);

 if ($G[i][j] == -1$)

 edge[h][0] = i, edge[h][1] = j;

}

is Delta-m-Tad ($G, V, h, \text{etc.}$)

part (γ) in No Neglect w/ ϵ (γ)

the part (γ) in Neglect w/ ϵ (γ)

etc. 0;

}

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Implement Dijkstr's Algo to wrk th shortest path from a given
Dijkstr's Algorithm topography.

Hindi < bib>.std::cout.h>

Hindi < limb.h>

Hindi < stdio.h>

using namespace std;

#define V 4

int minDistn(int dist[], bool sptSet[])

{

int min = INT_MAX, min_index;

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

if (sptSet[v] == false && dist[v] <= min)

min = dist[v], min_index = v;

return min_index;

}

void printSoln(int dist[])

{

printf("Veh. It Dist for loc. %i\n")

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

printf("%d %d", i, dist[i]);

}

void dijkstra (int graph [V][V], int m)

{

 int dist [v],

 bool sptSet [v];

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

 dist [i] = INT_MAX, sptSet [i] = false;

 dist [src] = 0;

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

 int u = minDistance (dist, sptSet);

 sptSet [u] = true;

 for (int v = 0; v < V; v + 1)

 if (!sptSet [v] && graph [u][v] && dist [v] == INT_MAX)

 && dist [u] + graph [u][v] < dist [v])

 dist [v] = dist [u] + graph [u][v];

}

 printMin (dist);

}

int main()

{

 int graph [V][V];

 read nth line graph & convert;

28/01/23

fun(M) = $\{j \in V \mid j \in H\}$

{

for ($i \in J$) $j \in M[i]$
 \Rightarrow graph($M[i]$);

}

graph(g_M , \emptyset);

return \emptyset ;

}

op

Enter graph

0 9 2 5
9 0 6 8
2 6 0 0
5 8 0 0

Vahr

Dikhi

fne Adam

0	0
1	8
2	2
3	5

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Socket (TCP/IP)

Using TCP/IP socket with a client server program to make client send the file name and the server to send back the content of the required file if present.

Client TCP.py

```
from socket import *
serverName = '127.0.0.1'
serverPort = 12000
```

2

```
clientSkt = socket(AF_INET, SOCK_STREAM)
clientSkt.connect((serverName, serverPort))
sentence = input('Enter file name: ')
clientSkt.send(sentence.encode())
fileContent = clientSkt.recv(1024).decode()
print('From Server: ' + fileContent)
clientSkt.close()
```

Server.py

```
from socket import *
serverName = '127.0.0.1'
serverPort = 12000
serverSkt = socket(AF_INET, SOCK_STREAM)
serverSkt.bind((serverName, serverPort))
serverSkt.listen(1)
connection, address = serverSkt.accept()
fileContent = connection.recv(1024).decode()
print('File Content: ' + fileContent)
connection.close()
```

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while:

print("The sum is not to run")

comprobable add = sumof - a[0][j]

subw = conn.cursor().recv(1024).decode()

file = open(subw, "r")

data = file.read(1024)

comprobable . add (1, add)

print('In set looks of ! + subw')

file.close()

comprobable . close()

Using UDP socket
to make client
the server to
request file

client.py

from socket import *
serverName = "www.cs.vt.edu"
serverPort = 12000
clientSocket = socket(AF_INET, SOCK_STREAM)
subw = input("Enter subw : ")

clientSocket . connect((serverName, serverPort))

file . subw , subw

print("*")
print(file)
file is in file
print(
clientSocket.
clientSocket

showUDP.py

25/01/23

Socket (UDP)

Using UDP socket, write a client server program
to make client sending the filename &
the server to send back the content of the
requested file if present

client.py

```
from socket import *
serverName = "123.0.0.1"
serverPort = 12000
clientSocket = socket(AF_INET, SOCK_DGRAM)
sentence = input("Enter the name")
clientSocket.sendto(sentence.encode(), (serverName, serverPort))
modifiedSentence, serverAddress = clientSocket.recvfrom(2048)
print(modifiedSentence)
```

fileWidth, serverAddress = clientSocket.recvfrom(2048)

```
print("*" * 50 + "File from server : " + "\n")
print(fileWidth.decode())
# for i in range():
#     print(sh(i))
clientSocket.close()
clientSocket.close()
```

server.py

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from solid input &

sumPart = 12000

sumSolid = solid (AF = INE; solid, PNA)

sumSolid = sum ("127.0.0.1", sumPart)

print ("174 sum is ready to receive")

while (:

subw, ch1Adress = sumSolid. recvfrom (2048)

subw = subw.decode ("utf-8")

fpn = open (subw, 'r')

fpn.read (2048)

sumSolid.send (bytes (1, "utf-8"), ch1Adress)

print ("174 send ready of end = 1")

print (subw)

If for i in subw:

If print (subw[i], end = 1)

of fpn.close ()

Riph from server.

from solid

sumPart = 12000

sumSolid = solid (

sumSolid. bind ("127.0.0.1", sumPart)

while (:

print ("174")

subw, ch1Adress = sumSolid.

subw = subw.decode (

fpn = open (subw, 'r')

fpn.read (2048)

sumSolid.send (subw)

print ("174 in sum")

print (subw)

fpn.close ()

>>

off

senddp

The sum is ready to receive

Send contents of senddp p)

The sum is ready to ~~receive~~ receive

ch1Adress

Link the function: sumVdp ()

Riph from scrn."

from scrt input at *

sumfz = 12000

sum.Sch. sch (AF-INR) .SCH .PLMN)

sum.Sch. bW (1 "123.0.1" , sumPst)
while :

prt ("This sum is ready to recu")

schm . chrt Addy sum.Sch . recu fm (20h)

entrec = schm . devl ("utf-8")

fh = open (schm , "r")

f = fh . read (20h)

sum.Sch . srl to (byts (1 , "utf-1"),
chrt Addy)

print ("In sum with H " + ad - " ")

prt (schm)

fh . close ()

>>)