**Lab Program 7**

**Q:- Write a program for distance vector algorithm to find suitable path for**

**Transmission.**

#include <iostream>

#include <stdio.h>

using namespace std;

struct router

{

int dist[10];

int next[10];

} router[10];

int main()

{

int no;

cout << "Enter number of router : " << endl;

cin >> no;

cout << "Enter adjacency matrix : " << endl;

int vt[no][no];

for (int i = 0; i < no; i++)

{

for (int j = 0; j < no; j++)

{

cin >> router[i].dist[j];

router[i].next[j] = j;

}

cout << endl;

}

for (int i = 0; i < no; i++)

{

for (int j = 0; j < no; j++)

{

for (int k = 0; k < no; k++)

{

if (router[i].dist[j] > router[i].dist[k] + router[k].dist[j])

{

router[i].dist[j] = router[i].dist[k] + router[j].dist[k];

router[i].next[j] = k;

}

}

}

}

for (int i = 0; i < no; i++)

{

cout << "Router info for router: " << i + 1 << endl;

cout << "Dest\tNext Hop\tDist" << endl;

for (int j = 0; j < no; j++)

printf("%d\t%d\t\t%d\n", j + 1, router[i].next[j] + 1, router[i].dist[j]);

}

return 0;

}

