6 DISTANCE VECTOR

#include<stdio.h>

struct node

{

unsigned dist[20];

unsigned from[20];

}array[10];

int main()

{

int cost[20][20];

int nodes,i,j,k,count=0;

printf("\nEnter the number of nodes : ");

scanf("%d",&nodes);

printf("\nEnter the cost matrix :\n");

for(i=0;i<nodes;i++)

{

for(j=0;j<nodes;j++)

{

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

cost[i][i]=0;

array[i].dist[j]=cost[i][j];

array[i].from[j]=j;

}

}

do

{

count=0;

for(i=0;i<nodes;i++)

for(j=0;j<nodes;j++)

for(k=0;k<nodes;k++)

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

{

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

array[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,array[i].from[j]+1,array[i].dist[j]);

}

}

printf("\n\n");

}

