DISTANCE VECTOR

#include<stdio.h>

struct node

{

unsigned dist[20];

unsigned from[20];

}rt[10];

int main()

{

int dmat[20][20];

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

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

scanf("%d",&n);

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

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

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

{

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

dmat[i][i]=0;

rt[i].dist[j]=dmat[i][j];

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

}

do

{

count=0;

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

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

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

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

{

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<n;i++)

{

printf("\n\nFinal Routing Table for Router %d is \n",i+1);

printf("Destination \t Distance \t Next Hop\n");

printf("-------------------------------------------\n");

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

{

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

}

}

printf("\n\n");

}