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| Course: | Computer Networks (DJ12CEL405) |
| Date of Performance: |  |
| Date of Submission: |  |
| Experiment  No.: | 05 |
| Aim: | Distance Vector Routing using Bellman Ford |

**AIM: DISTANCE VECTOR ROUTING USING BELLMAN FORD**

CODE:

#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\nState value for router %d is \n", i + 1);

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

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

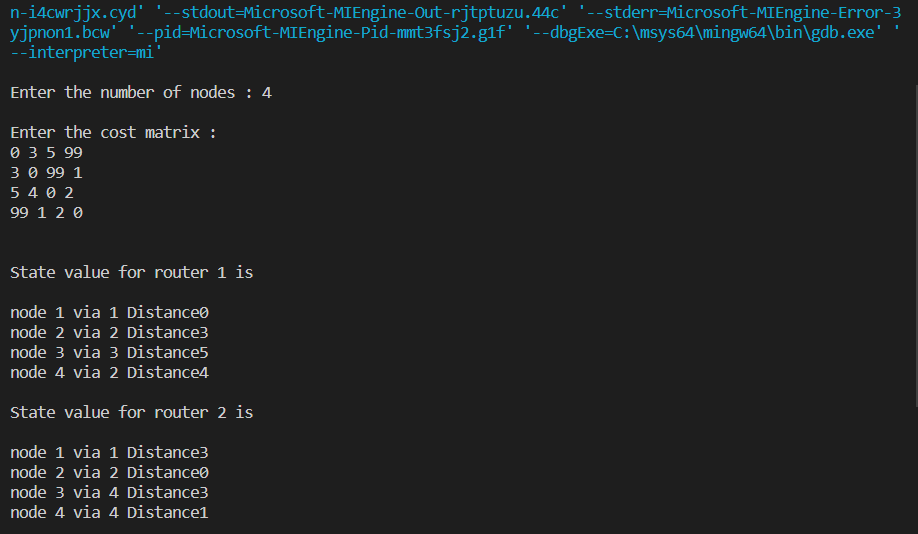
        }

    }

    printf("\n\n");

}

OUTPUT:



Text

Description automatically generated