# DAA LAB

## LAB 4:Warshalls Algorithms – Applying to Topological Ordering of vertices in a given digraph and computing the transitive closure of given directed graph.

PROGRAM:

**#include<stdio.h>**

**#include<conio.h>**

**#include<math.h>**

**int max(int,int);**

**void warshal(int p[10][10],int n) {**

**int i,j,k;**

**for (k=1;k<=n;k++)**

**for (i=1;i<=n;i++)**

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

**p[i][j]=max(p[i][j],p[i][k]&&p[k][j]);**

**}**

**int max(int a,int b)**

**{**

**if(a>b)**

**return(a);**

**else**

**return(b);**

**}**

**void main() {**

**int p[10][10]= {0},n,e,u,v,i,j;**

**printf("\n Enter the number of vertices:");**

**scanf("%d",&n);**

**printf("\n Enter the number of edges:");**

**scanf("%d",&e);**

**for (i=1;i<=e;i++) {**

**printf("\n Enter the end vertices of edge %d:",i);**

**scanf("%d%d",&u,&v);**

**p[u][v]=1;**

**}**

**printf("\n Matrix of input data: \n");**

**for (i=1;i<=n;i++) {**

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

**printf("%d\t",p[i][j]);**

**printf("\n");**

**}**

**warshal(p,n);**

**printf("\n Transitive closure: \n");**

**for (i=1;i<=n;i++) {**

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

**printf("%d\t",p[i][j]);**

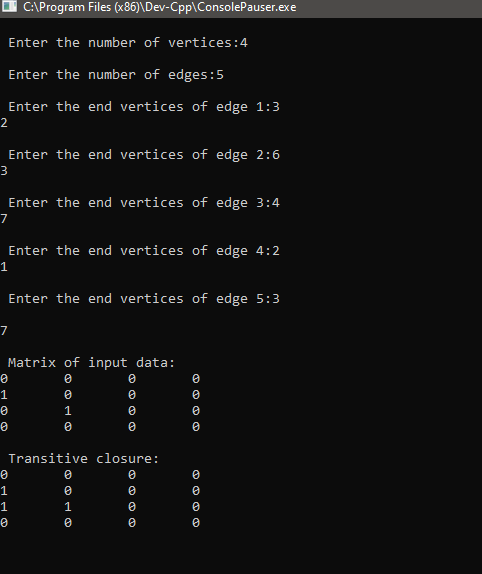
**printf("\n");**

**}**

**getch();**

**}**

OUTPUT:

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