## DAA LAB

### LAB 3: Shortest Paths Algorithms : All Pair Shortest Path algorithms – Floyds Algorithm and other algorithms.

PROGRAM:

**#include<stdio.h>**

**int all\_pair(int wt[30][30],int n)**

**{**

**int d[n+1][n+1],i,j,k;**

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

**{**

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

**d[i][j]=wt[i][j];**

**}**

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

**{**

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

**{**

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

**d[i][j]=minimum(d[i][j],d[i][k]+d[k][j]);**

**}**

**}**

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

**{**

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

**{**

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

**}**

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

**}**

**}**

**int minimum(int a,int b)**

**{**

**return a<b?a:b;**

**}**

**int main()**

**{**

**int n,wt[30][30],i,j;**

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

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

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

**printf("If the edge is present enter the value and\n itself vertex value is zero and \nif edge is not present enter the value is 32767");**

**printf("Enter the weigth matrix with the help of graph");**

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

**{**

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

**{**

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

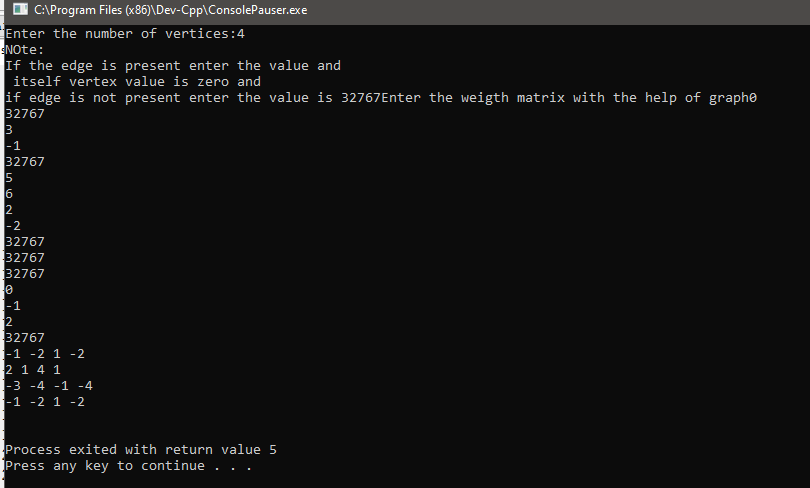
**}**

**}**

**all\_pair(wt,n);**

**}**

OUTPUT:

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