**Program No.:-13**

**Aim: Write a program to find all pair shortest path in a graph using Floyd-Warshall algorithm.**

**Source Code:**

#include<stdio.h>

#include<conio.h>

#include<limits.h>

struct str

{

long d[10][10];

}s[10];

int i,j,k;

void warshall()

{

int n=5;

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

{

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

{

s[0].d[i][j]=edge[i-1][j-1];

}

}

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

{

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

{

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

{

if(s[k-1].d[i][j]>(s[k-1].d[i][k]+s[k-1].d[k][j]) && i!=j)

{

s[k].d[i][j]=(s[k-1].d[i][k]+s[k-1].d[k][j]);

}

else

{

s[k].d[i][j]=s[k-1].d[i][j];

}

}

}

}

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

{

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

{

printf("%d\t",s[n].d[i][j]);

}

printf("\n");

}

}

void main()

{

clrscr();

build

printf("the shortest path for all pair of graph is given as:\n");

warshall(edge);

getch();

}

**Output:**

