

LAB PROGRAM 8

AIM: Implement All Pair Shortest paths problem using Floyd's algorithm.

SOURCE CODE

```
#include<stdio.h>

#include<stdlib.h>

#define INF 999

int a[10][10],d[10][10],n;

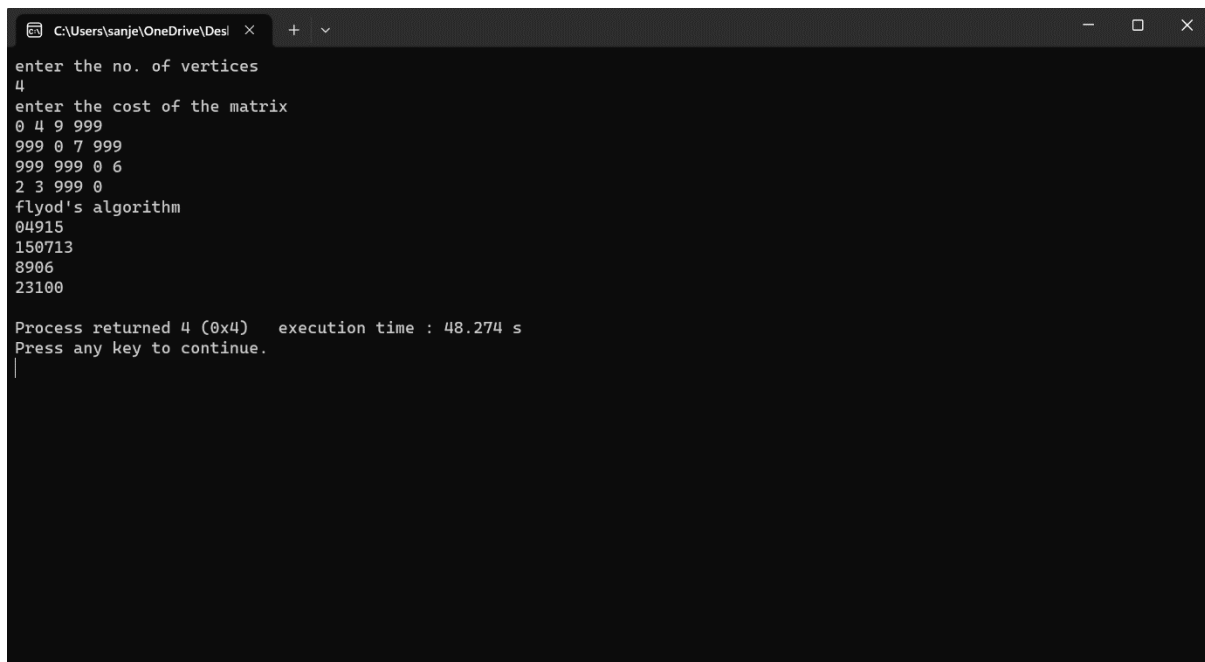
int min(int a,int b)
{
    if(a<b)
    {
        return a;
    }
    else
    {
        return b;
    }
}

void shortestpath()
{
    int i,j,k;
    for(k=0;k<n;k++)
    {
        for(i=0;i<n;i++)
        {
            for(j=0;j<n;j++)
```

```
        {
            d[i][j]=min(d[i][j],d[i][k]+d[k][j]);
        }
    }
}

void main()
{
    int i,j;
    printf("enter the no. of vertices\n");
    scanf("%d",&n);
    printf("enter the cost of the matrix\n");
    for(i=0;i<n;i++)
        for(j=0;j<n;j++)
        {
            scanf("%d",&a[i][j]);
            d[i][j]=a[i][j];
        }
    shortestpath();
    printf("flyod's algorithm \n");
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        {
            printf("%d",d[i][j]);
        }
        printf("\n");
    }
}
```

OUTPUT SCREENSHOT



```
C:\Users\sanje\OneDrive\Desktop >
enter the no. of vertices
4
enter the cost of the matrix
0 4 9 999
999 0 7 999
999 999 0 6
2 3 999 0
floyd's algorithm
04915
150713
8906
23100

Process returned 4 (0x4)   execution time : 48.274 s
Press any key to continue.
|
```