LAB – 9

Floyd's Algorithm-

CODE-

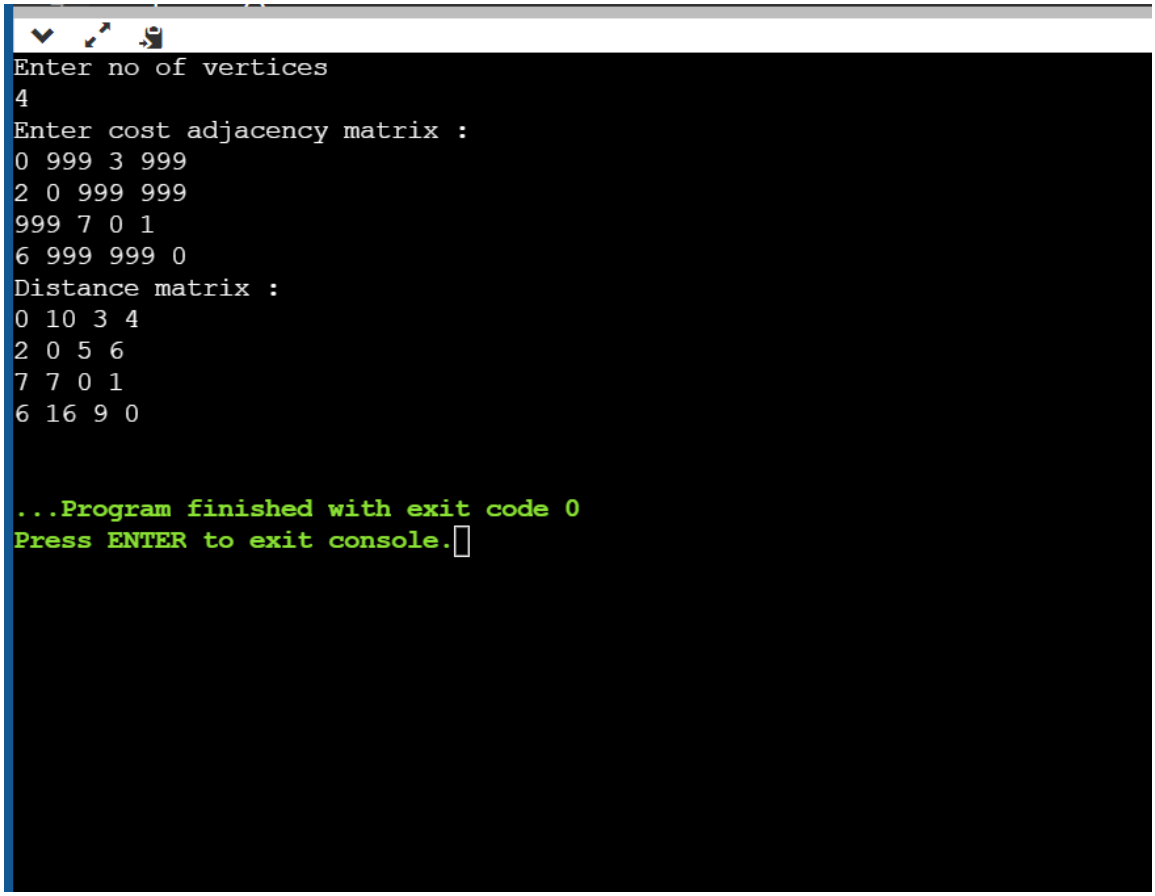
```
#include<stdio.h>
#include<conio.h>
#include<process.h>
int a[10][10],d[10][10],n;
void floyds();
int min(int ,int);
void main()
{
        printf("Enter no of vertices\n");
        scanf("%d",&n);
        printf("Enter cost adjacency matrix :\n");
        for(int i=1;i<=n;i++)
        {
                for(int j=1;j<=n;j++)
                        scanf("%d",&a[i][j]);
        }
```

```
        floyds();
        printf("Distance matrix :\n");
        for(int i=1;i<=n;i++)
        {
                for(int j=1;j<=n;j++)
                        printf("%d ",d[i][j]);
                printf("\n");
        }
}

void floyds()
{
        for(int i=1;i<=n;i++)
        {
                for(int j=1;j<=n;j++)
                        d[i][j]=a[i][j];
        }
        for(int k=1;k<=n;k++)
        {
                for(int i=1;i<=n;i++)
```

```
            {
                for(int j=1;j<=n;j++)
                {
                    d[i][j]=min(d[i][j],d[i][k]+d[k][j]);
                }
            }
        }
}
int min(int a,int b)
{
        if(a<b)
            return a;
        else
            return b;
}
```

OUTPUT-


Enter no of vertices
4
Enter cost adjacency matrix :
0 999 3 999
2 0 999 999
999 7 0 1
6 999 999 0
Distance matrix :
0 10 3 4
2 0 5 6
7 7 0 1
6 16 9 0
...Program finished with exit code 0
Press ENTER to exit console.