

Floyd's

Program:

```
#include<stdio.h>
#include<conio.h>
int a[10][10],n;
void floyds();
int min(int,int);
void main()
{
    int i,j;


    printf("\nEnter the no. of vertices:\t");
    scanf("%d",&n);
    printf("\nEnter the cost matrix:\n");
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    floyds();
    getch();
}

void floyds()
{
    int i,j,k;
    for(k=1;k<=n;k++)
    {
        for(i=1;i<=n;i++)
        {
            for(j=1;j<=n;j++)
            {
                a[i][j]=min(a[i][j],a[i][k]+a[k][j]);
            }
        }
    }
    printf("\nAll pair shortest path matrix is:\n");
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            printf("%d\t",a[i][j]);
        }
        printf("\n\n");
    }
}

int min(int x,int y)
{
    if(x<y)
    {
        return x;
    }
}
```

```
}  
else  
{  
    return y;  
}  
}
```

Output screenshot:

 D:\ADA\labs\ada\_lab\floyd.exe

```
enter the no. of vertices:      4  
  
enter the cost matrix:  
0 9 -4 9999  
6 0 9999 2  
9999 5 0 9999  
9999 9999 1 0  
  
all pair shortest path matrix is:  
0      1      -4      3  
6      0      2      2  
11     5      0      7  
12     6      1      0
```