warshall.c | floyds.c

floyds.c

```c
/*Implement All Pair Shortest paths problem using Floyd's algorithm.*/
#include<stdio.h>
#include<conio.h>
void floyds();
int min(int,int);
int c[10][10], d[10][10], i,j,k,n;

void main()
{
    printf("Enter number of vertices\n");
    scanf("%d",&n);
    printf("Enter cost adjacency matrix\n");
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            scanf("%d",&c[i][j]);
        }
    }
    floyds();
    printf("\nDistance Matrix\n");
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            printf("%d ",d[i][j]);
        }
        printf("\n");
    }
    getch();
}
int min(int a,int b)
{
    if(a<b)
    {
        return(a);
    }
    else
```

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floyds.c

```c
    }
    else
    {
        return(b);
    }
}
void floyds()
{
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            d[i][j]=c[i][j];
        }
    }
    for(k=1;k<=n;k++)
    {
        for(i=1;i<=n;i++)
        {
            for(j=1;j<=n;j++)
            {
                d[i][j]=min(d[i][j], d[i][k]+d[k][j]);
            }
        }
    }
}
```

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floyds.c

```
37      }
38      else
39      {
40          return(b);
41      }
42  }
43  void floyds()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL powershell

```
PS C:\Users\muska\OneDrive\Desktop\C programs> gcc floyds.c
PS C:\Users\muska\OneDrive\Desktop\C programs> .\a.exe
Enter number 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
PS C:\Users\muska\OneDrive\Desktop\C programs>
```