



Warshalls\_Algorithm.c



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```
1 #include<stdio.h>
2 void warshalls();
3 int a[10][10], p[10][10],i,j,k,n;
4 void warshalls()
5 {
6     for(i=1;i<=n;i++)
7     {
8         for(j=1;j<=n;j++)
9             p[i][j]=a[i][j];
10    }
11    for(k=1;k<=n;k++)
12    {
13        for(i=1;i<=n;i++)
14        {
15            for(j=1;j<=n;j++)
16            {
17                if((p[i][j]!=1) && (p[i][k]==1 && p[k][j]==1))
18                    p[i][j]=1;
19            }
20        }
21    }
22 }
23 void main()
24 {
25     printf("Enter Number of Vertices:");
26     scanf("%d",&n);
27     printf("Enter Adjacency Matrix:");
28     for(i=1;i<=n;i++)
29     {
30         for(j=1;j<=n;j++)
31         {
32             scanf("%d",&a[i][j]);
33         }
34     }
35     warshalls();
36     printf("Path Matrix:\n");
37     for(i=1;i<=n;i++)
38     {
39         for(j=1;j<=n;j++)
40         {
41             printf("%d",p[i][j]);
42         }
43         printf("\n");
44     }
45 }
```

× Terminal

Enter Number of Vertices:4

Enter Adjacency Matrix:

0 1 0 0

0 0 0 1

0 0 0 0

1 0 1 0

Path Matrix:

1 1 1 1

1 1 1 1

0 0 0 0

1 1 1 1

x Terminal

Enter Number of Vertices:5

Enter Adjacency Matrix:

0 0 1 0 0

0 0 1 0 0

0 0 0 1 1

0 0 0 0 1

0 0 0 0 0

Path Matrix:

0 0 1 1 1

0 0 1 1 1

0 0 0 1 1

0 0 0 0 1

0 0 0 0 0