

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  int n,a[10][10],p[10][10];
4  void warshall(int n,int a[10][10],int p[10][10])
5  {
6      int i,j,k;
7      for(i=0;i<n;i++)
8          for(j=0;j<n;j++)
9              p[i][j]=a[i][j];
10     for(k=0;k<n;k++)
11         for(i=0;i<n;i++)
12             for(j=0;j<n;j++)
13                 if((p[i][j]==0) && (p[i][k]==1 && p[k][j]==1))
14                     p[i][j]=1;
15
16 }
17 int main()
18 {
19     int i,j;
20     printf("enter the number of vertices\n");
21     scanf("%d",&n);
22     printf("enter the adjacency matrix\n");
23     for(i=0;i<n;i++)
24     {
25         for(j=0;j<n;j++)
26         {
27             scanf("%d",&a[i][j]);
28         }
29     }
30     warshall(n,a,p);
31     printf("transitive closure\n");
32     for(i=0;i<n;i++)
33     {
34         for(j=0;j<n;j++)
```



main.c

```
28     }
29 }
30 warshall(n,a,p);
31 printf("transitive closure\n");
32 for(i=0;i<n;i++)
33 {
34     for(j=0;j<n;j++)
35     {
36         printf("%d\t",p[i][j]);
37     }
38     printf("\n");
39 }
40 }
```



```
❖ clang-7 -pthread -lm -o main main.c
```

```
❖ ./main
```

```
enter the number of vertices
```

```
4
```

```
enter the adjacency matrix
```

```
1 1 0 0
```

```
0 1 1 1
```

```
1 0 1 0
```

```
1 0 1 1
```

```
transitive closure
```

```
1 1 1 1
```

```
1 1 1 1
```

```
1 1 1 1
```

```
1 1 1 1
```

```
❖ █
```