



NodeTraversal_DFS.c

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```
1  #include<stdio.h>
2  int a[10][10],vis[10],n;
3  void dfs(int v){
4      int i;
5      vis[v]=1;
6      printf("%d,",v);
7      for(i=1;i<=n;i++){
8          if(a[v][i]==1 && vis[i]==0)
9              dfs(i);
10     }
11 }
12 void main()
13 {
14     int i,j,src,flag=0;
15     printf("Enter Number of Vertices:");
16     scanf("%d",&n);
17     printf("Enter Adjacency Matrix:\n");
18     for(i=1;i<=n;i++){
19         for(j=1;j<=n;j++)
20             scanf("%d",&a[i][j]);
21     }
22     for(i=1;i<=n;i++)
23         vis[i]=0;
24     printf("Enter Source Vertex:");
25     scanf("%d",&src);
26     printf("Nodes Reachable From Vertex %d,\n",src);
27     dfs(src);
28     for(i=1;i<=n;i++){
29         if(vis[i]==0){
30             flag=1;
31             printf("\nThe Graph is Not Connected.");
32             break;
33         }
34     }
35     if(flag==0){
36         printf("\nThe Graph is Connected.");
37     }
38 }
```

× Terminal

```
Enter Number of Vertices:4
Enter Adjacency Matrix:
0 1 1 0
1 0 1 0
1 1 0 1
0 0 1 0
Enter Source Vertex:1
Nodes Reachable From Vertex 1,
1,2,3,4,
The Graph is Connected.
```

× Terminal

```
Enter Number of Vertices:4
Enter Adjacency Matrix:
0 1 0 0
1 0 0 0
0 0 0 1
0 0 1 0
Enter Source Vertex:3
Nodes Reachable From Vertex 3,
3,4,
The Graph is Not Connected.
```