

Experiment No-7

input:

```
1 #include<stdio.h>
2 #include<stdlib.h>
3
4 /*  ADJACENCY MATRIX  */
5
6 int source,V,E,time,visited[20],G[20][20];
7 void DFS(int i)
8 {
9     int j;
10    visited[i]=1;
11    printf(" %d->",i+1);
12    for(j=0;j<V;j++)
13    {
14        if(G[i][j]==1 && visited[j]==0)
15        {
16            DFS(j);
17        }
18    }
19 }
20
21 int main()
22 {
23     int i,j,v1,v2;
24     printf("\t\t\tGraphs\n");
25     printf("Enter the no. of Edges : ");
26     scanf("%d",&E);
27     printf("Enter the no. of vertices : ");
28     scanf("%d",&V);
29     for(i=0;i<V;i++)
30     {
31         for(j=0;j<V;j++)
32         {
33             G[i][j]=0;
34         }
35     }
36
37     /* Creating Edges:P */
38     for(i=0;i<E;i++)
39     {
40         printf("Enter the Edges (format: V1 V2) : ");
41         scanf("%d%d",&v1,&v2);
42         G[v1-1][v2-1]=1;
43     }
44
45     for(i=0;i<V;i++)
46     {
47         for(j=0;j<V;j++)
48         {
49             printf(" %d\t",G[i][j]);
50         }
51         printf("\n");
52     }
53     printf("Enter the Source : ");
54     scanf("%d",&source);
55     DFS(source-1);
56     return 0;
57 }
58
59
```

output:

```

                                Graphs
Enter the no. of Edges : 8
Enter the no. of vertices : 9
Enter the Edges (format: V1 V2) : 1 2
Enter the Edges (format: V1 V2) : 8 3
Enter the Edges (format: V1 V2) : 7 5
Enter the Edges (format: V1 V2) : 1 4
Enter the Edges (format: V1 V2) : 6 8
Enter the Edges (format: V1 V2) : 1 6
Enter the Edges (format: V1 V2) : 7 2
Enter the Edges (format: V1 V2) : 1 0
  0      1      0      1      0      1      0      0      0
  0      0      0      0      0      0      0      0      0
  0      0      0      0      0      0      0      0      0
  0      0      0      0      0      0      0      0      0
  0      0      0      0      0      0      0      0      0
  0      0      0      0      0      0      0      1      0
  0      1      0      0      1      0      0      0      0
  0      0      1      0      0      0      0      0      0
  0      0      0      0      0      0      0      0      0
Enter the Source : 7
7-> 2-> 5->student@dl405-HP-ProDesk-400-G7-Microtower-PC:~$ gedit Exp_7.c
```