

```

1  #include <stdio.h>
2  #include <process.h>
3  #include <stdlib.h>
4
5  void dfs(int);
6  int a[10][10],vis[10],n;
7  int main()
8  {
9      int i,j,src;
10     int choice;
11     while(1)
12     {
13         printf("\n1.Depth First Search\n2.Exit\n");
14         printf("Enter the Choice :");
15         scanf("%d",&choice);
16         switch(choice)
17         {
18             case 1:printf("Enter the No: of Vertices :");
19                     scanf("%d",&n);
20                     printf("Enter the Adjacency Matrix :\n");
21                     for(i=1;i<=n;i++)
22                     {
23                         for(j=1;j<=n;j++)
24                         {
25                             scanf("%d",&a[i][j]);
26                         }
27                     }
28                     for(i=1;i<=n;i++)
29                         vis[i]=0;
30
31                     printf("Enter the Source Vertex :");
32                     scanf("%d",&src);
33                     printf("\nNodes reachable from Vertex %d are : \n",src);
34                     dfs(src);
35                     break;
36             case 2:exit(0);
37                     break;
38             default:exit(0);

```

```

22     {
23         for(j=1;j<=n;j++)
24         {
25             scanf("%d",&a[i][j]);
26         }
27     }
28     for(i=1;i<=n;i++)
29         vis[i]=0;
30
31     printf("Enter the Source Vertex :");
32     scanf("%d",&src);
33     printf("\nNodes reachable from Vertex %d are : \n",src);
34     dfs(src);
35     break;
36 case 2:exit(0);
37     break;
38 default:exit(0);
39 }
40 }
41 return 0;
42 }
43
44
45 void dfs(int v)
46 {
47     int i;
48     vis[v]=1;
49     printf("%d\n",v);
50     for(i=1;i<=n;i++)
51     {
52         if(a[v][i]==1 && vis[i]==0)
53         {
54             dfs(i);
55         }
56     }
57 }
58
59

```

C:\WINDOWS\SYSTEM32\cmd.exe

1.Depth First Search

2.Exit

Enter the Choice :1

Enter the No: of Vertices :5

Enter the Adjacency Matrix :

0 0 1 1 1

0 0 0 1 1

1 0 0 1 0

1 1 1 0 0

1 1 0 0 0

Enter the Source Vertex :1

Nodes reachable from Vertex 1 are :

1

3

4

2

5

1.Depth First Search

2.Exit

Enter the Choice :2

(program exited with code: 0)

Press any key to continue . . .