

Experiment 7

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Code:

```
#include <stdio.h>
#include <stdlib.h>
int source,v,e,time,visited[20],g[20][20];
void DFS (int i)
{
    int j;
    visited[i]=1;
    printf("%d ->",i+1);
    for(j=0;j<v;j++)
    {
        if(g[i][j]==1 && visited[j]==0)
            DFS(j);
    }
}
int main()
{
    int i,j,v1,v2;
    printf("\t\t\tGraphs\n");
    printf("Enter the number of edges:");
    scanf("%d",&e);
    printf("Enter the number of vertices:");
    scanf("%d",&v);
    for(i=0;i<v;i++)
    {
        for(j=0;j<v;j++)
            g[i][j]=0;
    }
    for(i=0;i<e;i++)
    {
        printf("Enter the edges in format:(v1,v2)=");
        scanf("%d%d",&v1,&v2);
        g[v1-1][v2-1]=1;
    }
    for(i=0;i<v;i++)
    {
        for(j=0;j<v;j++)
            printf("\t %d ",g[i][j]);
        printf("\n");
    }
    printf("Enter the source:");
    scanf("%d",&source);
    DFS(source-1);
    return 0;
```

}

Output:

```
7 ->dl0410@itadmin:~$ ./a.out
      Graphs
Enter the number of edges:5
Enter the number of vertices:6
Enter the edges in format:(v1,v2)=1 3
Enter the edges in format:(v1,v2)=2 5
Enter the edges in format:(v1,v2)=5 6
Enter the edges in format:(v1,v2)=7 6
Enter the edges in format:(v1,v2)=8 6
      0      0      1      0      0      0
      0      0      0      0      1      0
      0      0      0      0      0      0
      0      0      0      0      0      0
      0      0      0      0      0      1
      0      0      0      0      0      0
Enter the source:8
8 ->6 ->dl0410@itadmin:~$ gedit Jay7.c
```