

Assignment 3

DFS

code

```
#include <iostream>

using namespace std;

int source,V,E,time,visited[20],G[20][20];

void DFS(int i)
{
    int j;
    visited[i]=1;
    cout<<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;
    cout<<"Enter the no of edges:";
    cin>>E;
    cout<<"Enter the no of vertices:";
    cin>>V;
    for(i=0;i<V;i++)
    {
        for(j=0;j<V;j++)
```

```

        G[i][j]=0;
    }
    for(i=0;i<E;i++)
    {
        cout<<"\nEnter the edges\n";
        cin>> v1;
        cin>>v2;
        G[v1-1][v2-1]=1;

    }

    for(i=0;i<V;i++)
    {
        for(j=0;j<V;j++)
            cout<< G[i][j];
        cout<<"\n";
    }
    cout<<"Enter the source: ";
    cin>>source;
    DFS(source-1);
    return 0;
}

```

Output

C:\WINDOWS\SYSTEM32\cmd.exe

Enter the no of edges:5

Enter the no of vertices:6

Enter the edges

2 5

Enter the edges

3 2

Enter the edges

4 2

Enter the edges

2 5

Enter the edges

5 1

000000

000010

010000

010000

100000

000000

Enter the source: 2

251

(program exited with code: 0)

Press any key to continue . . .