Name:- Vrushabbh Jayant Bhave

Roll No:- 18

Practical Name:- Implementation of program based on Graph(Depth First Search)

Practicla No:-

#include"iostream.h"

#include"conio.h"

class GRAPH

{

int n,u,VISITED[10];

int G[10][10];

public:

GRAPH(int);

void READ\_GRAPH();

void SHOW\_GRAPH();

void DFS(int);

};

GRAPH::GRAPH(int par)

{

n=par;

for(int i=1;i<=n;i++)

VISITED[i]=0;

}

void GRAPH::READ\_GRAPH()

{

cout<<endl<<"Enter Adjecency Matrix: \n";

for(int i=1;i<=n;i++)

for(int j=1;j<=n;j++)

cin>>G[i][j];

}

void GRAPH::SHOW\_GRAPH()

{

cout<<endl<<"Adjeceny Matrix is: \n";

for(int i=1;i<=n;i++)

{

cout<<endl;

for(int j=1;j<=n;j++)

cout<<G[i][j]<<" ";

}

}

void GRAPH::DFS(int v)

{

int STK[10],top=0;

int u = v;

VISITED[u] = 1;

do

{

cout<<u<<" ";

for(int i=1;i<=n;i++)

{

if(G[u][i] == 1 && VISITED[i] == 0)

{

top = top + 1;

STK[top] = i;

VISITED[i] = 1;

}

}

if(top == 0)

break;

else

{

u = STK[top];

top = top - 1;

}

}while(1);

}

void main()

{

clrscr();

int v,n;

cout<<endl<<"Enter no of vertices: ";

cin>>n;

GRAPH obj(n);

obj.READ\_GRAPH();

obj.SHOW\_GRAPH();

cout<<endl<<"Enter souce vertex: ";

cin>>v;

obj.DFS(v);

getch();

}