PROGRAM :- 1BM19CS086 (DFS PROGRAM) WEEK 5

```c
#include<stdio.h>
#include<stdlib.h>

void dfs(int);

int a[10][10],vis[10],n,count;

void main()

{

int i,j,src;
printf("enter number of vertices\n");
scanf("%d",&n);
printf("enter adjacency matrix\n");
for(i=1;i<=n;i++)
{
for(j=1;j<=n;j++)
{
scanf("%d", &a[i][j]);
}
}

for(i=1;i<=n;i++)
 vis[i]=0;
printf("enter source vertex\n");
scanf("%d",&src);
printf("Nodes reachable from vertex-%d \n",src);
dfs(src);
if(count==n){
```

```
    printf("\nGraph is connected\n");
}
else{
    printf("Graph is not connected");
}
}

void dfs(int v)
{

int i;
vis[v]=1;
count=count+1;
printf("%d,",v);
for(i=1;i<=n;i++)
{
if(a[v][i]==1 && vis[i]==0)
  dfs(i);
}
}
```

OUTPUT:- for graph connected

```
enter number of vertices
4
enter adjacency matrix
0 1 0 1
1 0 1 0
0 1 0 1
1 0 1 0
enter source vertex
1
Nodes reachable from vertex-1
1,2,3,4,
Graph is connected
```

OUTPUT;- for graph is not connected

```
enter number of vertices
6
enter adjacency matrix
0 1 1 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 1 1
0 0 0 0 0 0
0 0 0 0 0 0
enter source vertex
1
Nodes reachable from vertex-1
1,2,3,Graph is not connected
```