**Depth First Search (DFS)**

#include<stdio.h>

void DFS(int);

int G[10][10],visited[10],n;    //n is no of vertices and graph is sorted in array G[10][10]

void main()

{

    int i,j;

    printf("Enter number of vertices:");

    scanf("%d",&n);

    //read the adjecency matrix

    printf("\nEnter adjecency matrix of the graph:");

    for(i=0;i<n;i++)

       for(j=0;j<n;j++)

            scanf("%d",&G[i][j]);

    //visited is initialized to zero

   for(i=0;i<n;i++)

        visited[i]=0;

    DFS(0);

}

void DFS(int i)

{

    int j;

    printf("\n%d",i);

    visited[i]=1;

    for(j=0;j<n;j++)

       if(!visited[j]&&G[i][j]==1)

            DFS(j);

}