**Design, Develop and Implement a Program in C Language for the following operations on Graph (G) of Cities.**

**a. Create a Graph of N cities using Adjacency Matrix.**

**b. Print all the nodes reachable from a given starting node in a digraph using DFS/BFS method**

**#include <stdio.h>**

**int a[20][20],q[20],visit[20],n,i,j,f=0,r=-1;**

**void bfs(int v)**

**{**

**int u;**

**q[++r]=v;**

**visit[v]=1;**

**while(f<=r)**

**{**

**u=q[f++];**

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

**{**

**if(a[u][i]==1&&visit[i]==0)**

**{**

**visit[i]=1;**

**q[++r]=i;**

**printf("%d->%d\n",u,i);**

**}**

**}**

**}**

**}**

**int main()**

**{**

**int v;**

**printf("\n Enter the number of vertices:");**

**scanf("%d",&n);**

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

**{**

**visit[i]=0;**

**}**

**printf("\n Enter graph data in matrix form:\n");**

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

**{**

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

**{**

**scanf("%d",&a[i][j]);**

**}**

**}**

**printf("\n Enter the starting vertex:");**

**scanf("%d",&v);**

**bfs(v);**

**printf("\n The node which are reachable are:\n");**

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

**if(visit[i])**

**printf("\t%d",i);**

**return 0;**

**}**