#include<stdio.h>

#include<conio.h>

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

void bfs(int v) {

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

if(a[v][i] && !visited[i])

q[++r]=i;

if(f<=r) {

visited[q[f]]=1;

bfs(q[f++]);

}

}

void main() {

int v;

clrscr();

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

scanf("%d",&n);

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

q[i]=0;

visited[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(visited[i])

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

printf("\n Bfs is not possible");

getch();

}

