#include<stdio.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;

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 graphdata 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 fs is not possible avt all nodes are reachable");

break;

}

}

getch();

}