```c
#include<stdio.h>
#include<conio.h>
int a[20][20],reach[20],n;
void dfs(int v)
{
int i;
reach[v]=1;
for(i=1;i<=n;i++)
if(a[v][i] && !reach[i])
{
printf("\n %d->%d",v,i);
dfs(i);
}
}
void main()
{
int i,j,count=0;
printf("\n Enter number of vertices:");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
reach[i]=0;
for(j=1;j<=n;j++)
a[i][j]=0;
}
printf("\n Enter the adjacency matrix:\n");
```

```c
16  {
17  int i,j,count=0;
18  printf("\n Enter number of vertices:");
19  scanf("%d",&n);
20  for(i=1;i<=n;i++)
21  {
22  reach[i]=0;
23  for(j=1;j<=n;j++)
24  a[i][j]=0;
25  }
26  printf("\n Enter the adjacency matrix:\n");
27  for(i=1;i<=n;i++)
28  for(j=1;j<=n;j++)
29  scanf("%d",&a[i][j]);
30  dfs(1);
31  printf("\n");
32  for(i=1;i<=n;i++)
33  {
34  if(reach[i])
35  count++;
36  }
37  if(count==n)
38  printf("\n Graph is connected");
39  else
40  printf("\n Graph is not connected");
41  getch();
42  }
```

```
Enter number of vertices:5

Enter the adjacency matrix:
0 1 0 1 0
0 0 1 1 0
0 0 0 0 0
0 0 1 0 1
0 0 0 0 0


1->2
2->3
2->4
4->5

Graph is connected

...Program finished with exit code 255
Press ENTER to exit console.
```

* check whether the given graph is connected
  or not by DFS method:

```c
#include <stdio.h>
#include <conio.h>
int a[20][20], reach[20], n;
void dfs (int v)
{
int i;
reach [v] = 1;
for(i=1; i<=n; i++)
if (a[v][i] && !reach[i])
{
Printf ("\n %d-> %d", v, i);
dfs (i);
}
}
void main ()
{
int i, j, count = 0;
Printf ("\n Enter the number of vertices ");
scanf ("%d", &n);
for(i=1; i<=n; i++)
a[i][j]=0;
}
```

```c
printf("\n Enter the adjacency matrix");
for(i=1; i<=n; i++)
for(j=1; j<=n; j++)
scanf("%d", &a[i][j]);
dfs(1);
printf("\n");
for(i=1; i<=n; i++)
{
if(!reach[i])
count++;
}
if(count==n)
printf("\n Graph is connected");
else
printf("\n Graph is not connected");
getch();
}
```