

Check whether a given graph is connected or not using DFS method.

```
#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("\nEnter the 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("\nEnter the adjacency matrix:\n");
```

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

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

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

```
printf("\nDepth-First Search starting from vertex 1:\n");
```

```
dfs(1);
```

```
printf("\n");
```

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

```
    if (reach[i])
```

```
        count++;
```

```
}
```

```
if (count == n)
```

```
    printf("\nGraph is connected\n");
```

```
else
```

```
    printf("\nGraph is not connected\n");
```

```
}
```