//Write a program to check whether given graph is connected or not using DFS method.

```c
#include <stdio.h>

int graph[50][50];
int visited[50];
int n;   // number of vertices

void dfs(int v)
{
    int i;
    visited[v] = 1;

    for (i = 0; i < n; i++)
    {
        if (graph[v][i] == 1 && visited[i] == 0)
        {
            dfs(i);
        }
    }
}

int main()
{
    int i, j;
    printf("Enter number of vertices: ");
    scanf("%d", &n);
```

```c
    printf("Enter adjacency matrix:\n");
    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n; j++)
        {
            scanf("%d", &graph[i][j]);
        }
    }

    // Initialize visited array
    for (i = 0; i < n; i++)
        visited[i] = 0;

    // Start DFS from vertex 0
    dfs(0);

    // Check if all vertices are visited
    for (i = 0; i < n; i++)
    {
        if (visited[i] == 0)
        {
            printf("The graph is NOT connected.\n");
            return 0;
        }
    }

    printf("The graph is CONNECTED.\n");
    return 0;
}
```

OUTPUT:-

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS C:\Users\Admin\Documents\1WN24CS181> cd "c:\Users\Admin\Documents\1WN24CS181\" ; if ($?) { gcc DFS.C -o DFS } ; if ($?) { .\DFS }
Enter number of vertices: 4
Enter adjacency matrix:
0 1 1 0
1 0 0 1
1 0 0 1
0 1 1 0
The graph is CONNECTED.
PS C:\Users\Admin\Documents\1WN24CS181> []
```