

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

```
#include <stdio.h>

int n, graph[50][50], visited[50];

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);
    printf("Enter adjacency matrix:\n");
    for (i = 0; i < n; i++) {
        for (j = 0; j < n; j++) {
            scanf("%d", &graph[i][j]);
        }
        visited[i] = 0;
    }
    dfs(0); // Start DFS from vertex 0
    for (i = 0; i < n; i++) {
        if (visited[i] == 0) {
            printf("Graph is NOT connected\n");
            return 0;
        }
    }
    printf("Graph is CONNECTED\n");
    return 0;}
```

Enter number of vertices: 5

Enter adjacency matrix:

0 1 0 0 0

1 0 1 0 0

0 1 0 0 0

0 0 0 0 1

0 0 0 1 0

Graph is NOT connected

Process returned 0 (0x0) execution time : 49.965 s

Press any key to continue.

Enter number of vertices: 5

Enter adjacency matrix:

0 1 1 0 0

1 0 1 1 0

1 1 0 1 1

0 1 1 0 1

0 0 1 1 0

Graph is CONNECTED

Process returned 0 (0x0) execution time : 44.318 s

Press any key to continue.