

**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.
```