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#include <stdio.h>

#include <stdlib.h>

#define MAX_VERTICES 100

void dfs(int vertex, int visited[], int adjacency_matrix[][MAX_VERTICES], int num_vertices) {
    printf("%d ", vertex);
    visited[vertex] = 1;
    for (int i = 0; i < num_vertices; i++) {
        if (adjacency_matrix[vertex][i] && !visited[i]) {
            dfs(i, visited, adjacency_matrix, num_vertices);
        }
    }
}

int main() {
    int num_vertices;

    printf("Enter the number of vertices: ");
    scanf("%d", &num_vertices);

    int adjacency_matrix[MAX_VERTICES][MAX_VERTICES];

    printf("Enter the adjacency matrix:\n");
    for (int i = 0; i < num_vertices; i++) {
        for (int j = 0; j < num_vertices; j++) {
            scanf("%d", &adjacency_matrix[i][j]);
        }
    }

    int visited[MAX_VERTICES] = {0};

    int start_vertex;

    printf("Enter the start vertex for DFS: ");
    scanf("%d", &start_vertex);

    printf("DFS traversal starting from vertex %d: ", start_vertex);

    dfs(start_vertex, visited, adjacency_matrix, num_vertices);

    printf("\n");

    return 0; }

```

Enter the number of vertices: 5

Enter the adjacency matrix:

0 1 1 0 0

1 0 0 0 0

1 0 0 1 1

0 0 1 0 0

0 0 1 0 0

Enter the start vertex for DFS: 0

DFS traversal starting from vertex 0: 0 1 2 3 4