#include <stdio.h>

#define MAX 100

int adj[MAX][MAX]; // Adjacency matrix

int visited[MAX]; // Visited array

// DFS traversal

void dfs(int vertex, int n) {

visited[vertex] = 1;

printf("%d ", vertex);

for (int i = 0; i < n; i++) {

if (adj[vertex][i] == 1 && !visited[i]) {

dfs(i, n);

}

}

}

int main() {

int n, edges, u, v, start;

// Input: number of vertices

printf("Enter number of vertices: ");

scanf("%d", &n);

// Initialize adjacency matrix and visited array

for (int i = 0; i < n; i++) {

visited[i] = 0;

for (int j = 0; j < n; j++)

adj[i][j] = 0;

}

// Input: number of edges

printf("Enter number of edges: ");

scanf("%d", &edges);

// Input: edges

printf("Enter edges (u v):\n");

for (int i = 0; i < edges; i++) {

scanf("%d %d", &u, &v);

adj[u][v] = 1;

adj[v][u] = 1; // For undirected graph

}

// Input: starting vertex

printf("Enter starting vertex for DFS: ");

scanf("%d", &start);

// Perform DFS

printf("DFS Traversal starting from vertex %d: ", start);

dfs(start, n);

printf("\n");

return 0;

}