Program 9b

Write a program to traverse through a graph using DFS method.

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Code:
#include <stdio.h>
#include <stdlib.h>
#define MAX 100
int graph[MAX][MAX];
int visited[MAX];
void DFS(int vertex, int n) {
  printf("%d ", vertex);
  visited[vertex] = 1;
  for (int i = 0; i < n; i++) {
     if (graph[vertex][i] == 1 && !visited[i]) {
       DFS(i, n);
     }
  }
}
int main() {
  int n, startVertex;
  printf("Enter the number of vertices in the graph: ");
  scanf("%d", &n);
  printf("Enter the adjacency matrix of the graph:\n");
  for (int i = 0; i < n; i++) {
     for (int j = 0; j < n; j++) {
       scanf("%d", &graph[i][j]);
     }
  }
  printf("Enter the starting vertex (0 to %d): ", n - 1);
  scanf("%d", &startVertex);
  for (int i = 0; i < n; i++) {
     visited[i] = 0;
  }
  printf("DFS Traversal: ");
  DFS(startVertex, n);
  printf("\n");
  return 0;
```

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}
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Enter the number of vertices in the graph: 5
Enter the adjacency matrix of the graph:
0 1 1 0 0
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1 1 0 1
0 1 1 0 1
0 1 1 0
Enter the starting vertex (0 to 4): 0
DFS Traversal: 0 1 2 3 4
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