DSA Lab 6

Selvakumar – 22MAI1004

**Perform Depth First Search**

// DFS in graph

#include <stdio.h>

#include <stdlib.h>

#include <stdbool.h>

#define MAX 100

void DFS(int G[][MAX], int n, int start)

{

bool visited[MAX];

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

{

visited[i] = false;

}

int stack[MAX], top = -1;

stack[++top] = start;

while (top != -1)

{

int v = stack[top--];

if (!visited[v])

{

printf("%d ", v);

visited[v] = true;

}

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

{

if (G[v][i] == 1 && !visited[i])

{

stack[++top] = i;

}

}

}

}

int main()

{

int G[MAX][MAX], n, start;

printf("Enter the number of vertices: ");

scanf("%d", &n);

printf("Enter the adjacency matrix: ");

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

{

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

{

scanf("%d", &G[i][j]);

}

}

printf("Enter the starting vertex: ");

scanf("%d", &start);

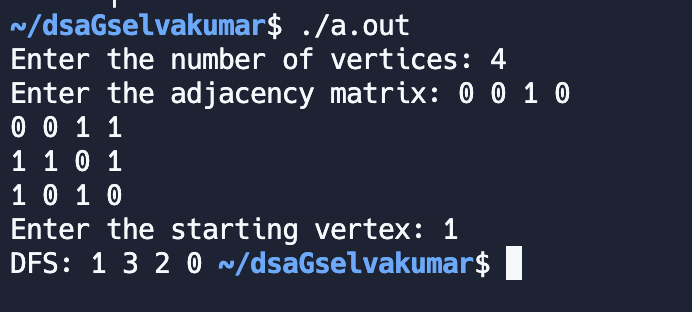
printf("DFS: ");

DFS(G, n, start);

return 0;

}

**Output**

****