1. **Write program to obtain the Topological ordering of vertices in a given digraph.**

//C program to implement topological sort using DFS

#include <stdio.h>

int n, a[10][10], res[10], s[10], top = 0;

void dfs(int, int, int[][10]);

void dfs\_top(int, int[][10]);

int main()

{

    printf("Enter the no. of nodes");

    scanf("%d", &n);

    int i, j;

    for (i = 0; i < n; i++) {

        for (j = 0; j < n; j++) {

            scanf("%d", &a[i][j]);

        }

    }

    dfs\_top(n, a);

    printf("Solution: ");

    for (i = n - 1; i >= 0; i--) {

        printf("%d ", res[i]);

    }

    return 0;

}

void dfs\_top(int n, int a[][10]) {

    int i;

    for (i = 0; i < n; i++) {

        s[i] = 0;

    }

    for (i = 0; i < n; i++) {

        if (s[i] == 0) {

            dfs(i, n, a);

        }

    }

}

void dfs(int j, int n, int a[][10]) {

    s[j] = 1;

    int i;

    for (i = 0; i < n; i++) {

        if (a[j][i] == 1 && s[i] == 0) {

            dfs(i, n, a);

        }

    }

    res[top++] = j;

}

Output: 