

22AIE203 – Data Structures and
Algorithm - 2

LAB EXP 1b

DFS

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CLASS:2 YEAR 3 SEM

CODE

```
#include <stdio.h>
#include <stdlib.h>

#define n 5 // number of nodes

int visited[n] = {0, 0, 0, 0, 0};

int A[n][n] = {
    {0, 1, 1, 0, 0},
    {1, 0, 1, 1, 0},
    {1, 1, 0, 1, 0},
    {0, 1, 1, 0, 1},
    {0, 0, 0, 1, 0}
};

/*
    1 ----- 2
    |         / |
    |        /  |
    |       /   |
    |      /    |
    |     /     |
    3 -----4
           |
           |
           |
           5
*/
void DFS(int i) {
    printf("%d ", i + 1);
    visited[i] = 1;
    for (int j = 0; j < n; j++) {
        if (A[i][j] == 1 && !visited[j]) {
            DFS(j);
        }
    }
}

int main() {
    printf("DFS Traversal: ");
    DFS(0);
    printf("\n");
    return 0;
}
```

Input

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    EXPOSED PORTS    TERMINAL    SERIAL MONITOR

PS D:\Sem3\Notes\DSA-2\dsa2lab> cd "d:\Sem3\Notes\DSA-2\dsa2lab\week1\" ;

DFS Traversal: 1 2 3 4 5

PS D:\Sem3\Notes\DSA-2\dsa2lab\week1>
```