

CSA 0317 DATA STRUCTURES

PROGRAM 22

```
#include <stdio.h>

#define MAX 10

int visited[MAX];

void DFS(int adj[MAX][MAX], int n, int start) {
    int i;
    printf("%d ", start);
    visited[start] = 1;

    for (i = 0; i < n; i++) {
        if (adj[start][i] == 1 && !visited[i])
            DFS(adj, n, i);
    }
}

int main() {
    int n, adj[MAX][MAX], i, j, start;

    printf("Enter number of vertices: ");
    scanf("%d", &n);

    printf("Enter adjacency matrix:\n");
    for (i = 0; i < n; i++)
        for (j = 0; j < n; j++)
            scanf("%d", &adj[i][j]);

    printf("Enter starting vertex: ");
```

```
scanf("%d", &start);

for (i = 0; i < n; i++)
    visited[i] = 0;

printf("DFS Traversal: ");
DFS(adj, n, start);
return 0;
}
```

Output:

Output

```
Enter number of vertices: 4
Enter adjacency matrix:
0 1 1 0
1 0 0 1
1 0 0 1
0 1 1 0
Enter starting vertex: 0
DFS Traversal: 0 1 3 2

=== Code Execution Successful ===
```