

```

1 #include<stdio.h>
2 #define MAX 10
3 int visited[MAX];
4 int adj[MAX][MAX];
5 int n;
6
7 void DFS(int v){
8     visited[v]=1;
9     printf("%d ",v);
10    for(int i=0;i<n;i++){
11        if(adj[v][i] ==1 && !visited[i]){
12            DFS(i);
13        }
14    }
15 }
16
17 int main(){
18     printf("Enter number of vertices: ");
19     scanf("%d",&n);
20     printf("Enter adjacency matrix:\n");
21     for(int i=0;i<n;i++){
22         for(int j=0;j<n;j++){
23             scanf("%d",&adj[i][j]);
24         }
25     }
26     for(int i=0;i<n;i++){
27         visited[i]=0;
28     }
29     printf("DFS Traversal starting from vertex 0:\n");
30     DFS(0);
31     return 0;
32 }
```

```

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

==== Code Execution Successful ====

DFS:-

```
#include <stdio.h>
#define MAX 10
int visited[MAX];
int adj[MAX][MAX];
int n;
void DFS(int v) {
    visited[v] = 1;
    printf("%d ", v);
    for (int i=0; i<n; i++) {
        if (adj[v][i] == 1 && !visited[i]) {
            DFS(i);
        }
    }
}
int main() {
    printf("Enter number of vertices: ");
    scanf("%d", &n);
    printf("Enter adjacency matrix: ");
    for (int i=0; i<n; i++) {
        for (int j=0; j<n; j++) {
            scanf("%d", &adj[i][j]);
        }
    }
    for (int i=0; i<n; i++) {
        visited[i] = 0;
    }
    printf("DFS traversal starting from vertex 0 is ");
    DFS(0);
    return 0;
}
```

O/P V

Enter number of vertices: 4 } (3 lines)

Enter adjacency matrix: } (3 lines)

0 1 0 0 } (3 lines) clear start to visit vertex 0 } (3 lines)

1 0 0 1 } (3 lines) visit vertex 1 } (3 lines)

1 0 0 0 } (3 lines) visit vertex 2 } (3 lines)

0 1 0 0 } (3 lines) completed to visit vertex 3 } (3 lines)

DFS Transversal starting from vertex 0; } (3 lines)

0 1 3 2 } (3 lines) standard (0, 1, 3, 2) not } (3 lines)

{ (0, 1, 3, 2) trans } (3 lines)

{ (0, 1, 3, 2) trans } (3 lines)