

# DFS Traversal

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1BM21CS232

```
#include <stdio.h>

void DFS(int);
void isConnected();
int A[10][10], vis[10], n;
int count=1;
int main()
{
    printf("Enter the number of vertices: ");
    scanf("%d", &n);
    printf("Enter Adjacency Matrix\n");
    for (int i = 1; i <= n; i++)
    {
        for (int j = 1; j <= n; j++)
        {
            scanf("%d", &A[i][j]);
        }
    }
    printf("DFS Traversal\n");
    for (int i = 1; i <= n; i++)
    {
        vis[i] = 0;
    }

    for (int i = 1; i <= n; i++)
    {
        if (vis[i] == 0)
        {
            DFS(i);
        }
    }

    isConnected();
    return 0;
}

void DFS(int v)
{
    vis[v] = 1;
    printf("%d ", v);
    for (int i = 1; i <= n; i++)
    {
        if (A[v][i] == 1 && vis[i] == 0)
        {
```

```

        count++;
        DFS(i);
    }
}

void isConnected()
{
    // Keeps track of the number of connected components

    if (count == n)
    {
        printf("\nGraph is Connected");
    }
    else
    {
        printf("%d",count);
        printf("\nGraph is not connected");
    }
}

```

OUTPUT:

```

C:\Users\Admin\Desktop\1BM21CS232\DFS Traversal-CS232.exe
Enter the number of vertices: 5
Enter Adjacency Matrix
0 1 1 99999 99999 1 0 99999 1 1 99999 0 99999 99999 99999 1 99999 0 99999 99999 1 99999 99999 0
DFS Traversal
1 2 4 5 3
Graph is Connected
-----
Process exited after 19.94 seconds with return value 0
Press any key to continue . . .

```