

Graph Traversal

Experiment 22

Sample code:

```
#include <stdio.h>

#define MAX 10

int graph[MAX][MAX], visited[MAX];

int n;

void DFS(int vertex) {
    visited[vertex] = 1;
    printf("%d ", vertex);
    for (int i = 0; i < n; i++) {
        if (graph[vertex][i] && !visited[i])
            DFS(i);
    }
}

int main() {
    int edges, u, v, start;

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

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

    for (int i = 0; i < n; i++)
        for (int j = 0; j < n; j++)
            graph[i][j] = 0;

    printf("Enter edges (u v):\n");
    for (int i = 0; i < edges; i++) {
        scanf("%d %d", &u, &v);
```

```

graph[u][v] = 1;
graph[v][u] = 1; // Remove this line for directed graph
}

printf("Enter starting vertex: ");
scanf("%d", &start);

printf("DFS traversal: ");
DFS(start);
printf("\n");

return 0;
}

```

The screenshot shows the Dev-C++ IDE with the following output in the console window:

```

C:\Users\Reddy\Documents\Untitled3.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes
C:\Users\Reddy\Documents\Untitled3.cpp
Enter number of vertices: 5
Enter number of edges: 4
Enter edges (u v):
0 1
0 2
1 3
3 4
Enter starting vertex: 0
DFS traversal: 0 1 3 4 2

-----
Process exited after 22.34 seconds with return value 0
Press any key to continue . . .

```

The IDE interface includes a menu bar (File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help), a toolbar, and a status bar at the bottom showing the system clock (2:12 PM, 5/26/2025) and language settings (ENG IN).

