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#include <iostream>
#include <stdlib.h>
using namespace std;

int cost[10][10], i, j, k, n, qu[10], front, rear, v, visit[10], visited[10];
int stk[10], top, visit1[10], visited1[10];

int main()
{
   int m;
   cout << "Enter number of vertices : ";
   cin >> n;
   cout << "Enter number of edges : ";
   cin >> m;

   cout << "\nEDGES :\n";
   for (k = 1; k <= m; k++)
   {
      cin >> i >> j;
      cost[i][j] = 1;
      cost[j][i] = 1;
   }

   //display function
   cout << "The adjacency matrix of the graph is : " << endl;
   for (i = 0; i < n; i++)
   {
      for (j = 0; j < n; j++)
      {
         cout << " " << cost[i][j];
      }
      cout << endl;
```

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}

cout << "Enter initial vertex : ";
cin >> v;
cout << "The BFS of the Graph is\n";
cout << v<<endl;
visited[v] = 1;
k = 1;
while (k < n)
{
   for (j = 1; j <= n; j++)
      if (cost[v][j] != 0 && visited[j] != 1 && visit[j] != 1)
      {
         visit[j] = 1;
         qu[rear++] = j;
      }
   v = qu[front++];
   cout << v << " ";
   k++;
   visit[v] = 0;
   visited[v] = 1;
}

cout <<endl<<"Enter initial vertex : ";
cin >> v;
cout << "The DFS of the Graph is\n";
cout << v<<endl;
visited[v] = 1;
k = 1;
while (k < n)
{
   for (j = n; j >= 1; j--)
```

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            if (cost[v][j] != 0 && visited1[j] != 1 && visit1[j] != 1)
            {
                visit1[j] = 1;
                stk[top] = j;
                top++;
            }
        v = stk[--top];
        cout << v << " ";
        k++;
        visit1[v] = 0;
        visited1[v] = 1;
    }

    return 0;
}
```