

[All Tracks](#) > [Algorithms](#) > [Graphs](#) > Graph Representation

7

LIVE EVENTS



Algorithms

🔔 Solve any problem to achieve a rank

[View Leaderboard](#)

Topics:

Graph Representation

TUTORIAL PROBLEMS

Graphs are mathematical structures that represent pairwise relationships between objects. A graph is a flow structure that represents the relationship between various objects. It can be visualized by using the following two basic components:

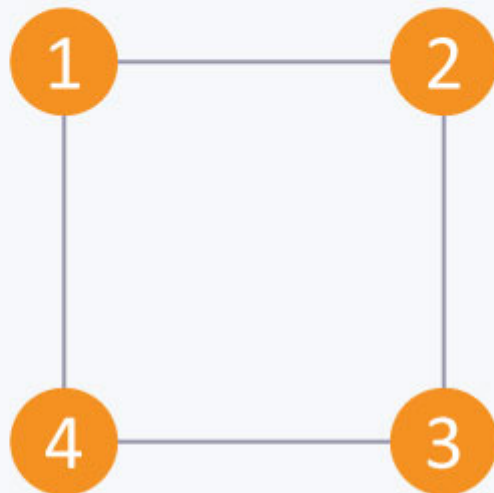
- **Nodes:** These are the most important components in any graph. Nodes are entities whose relationships are expressed using edges. If a graph comprises 2 nodes A and B and an undirected edge between them, then it expresses a bi-directional relationship between the nodes and edge.
- **Edges:** Edges are the components that are used to represent the relationships between various nodes in a graph. An edge between two nodes expresses a one-way or two-way relationship between the nodes.

Types of nodes

- **Root node:** The root node is the ancestor of all other nodes in a graph. It does not have any ancestor. Each graph consists of exactly one root node. Generally, you must start traversing a graph from the root node.
- **Leaf nodes:** In a graph, leaf nodes represent the nodes that do not have any successors. These nodes only have ancestor nodes. They can have any number of incoming edges but they will not have any outgoing edges.

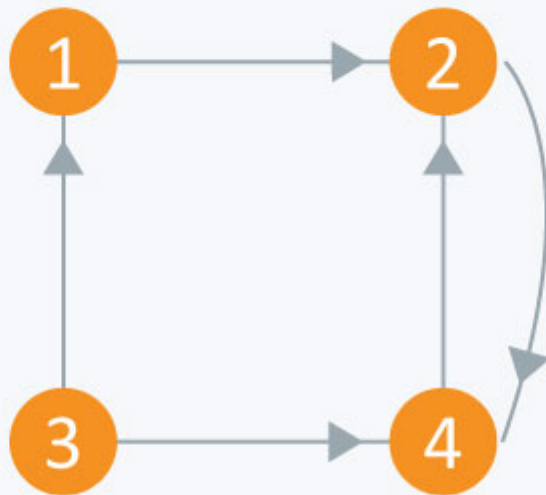
Types of graphs

- Undirected: An undirected graph is a graph in which all the edges are bi-directional i.e. the edges do not point in any specific direction.



Undirected Graph

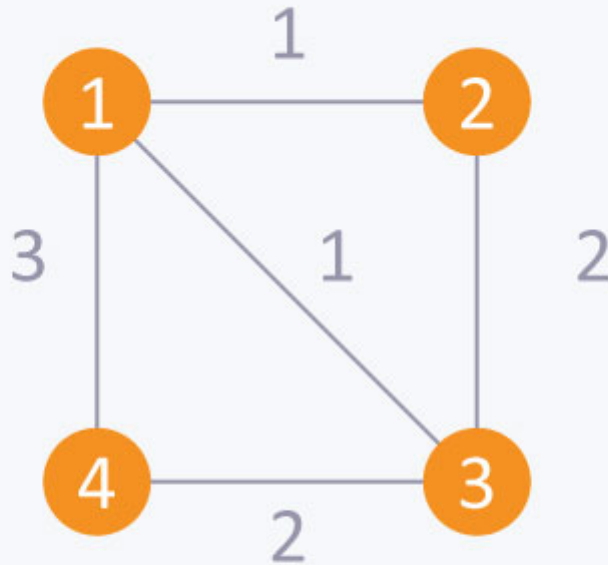
- Directed: A directed graph is a graph in which all the edges are uni-directional i.e. the edges point in a single direction.



Directed Graph

- **Weighted:** In a weighted graph, each edge is assigned a weight or cost. Consider a graph of 4 nodes as in the diagram below. As you can see each edge has a weight/cost assigned to it. If you want to go from vertex 1 to vertex 3, you can take one of the following 3 paths:
 - 1 -> 2 -> 3
 - 1 -> 3
 - 1 -> 4 -> 3

Therefore the total cost of each path will be as follows: - The total cost of 1 -> 2 -> 3 will be (1 + 2) i.e. 3 units - The total cost of 1 -> 3 will be 1 unit - The total cost of 1 -> 4 -> 3 will be (3 + 2) i.e. 5 units



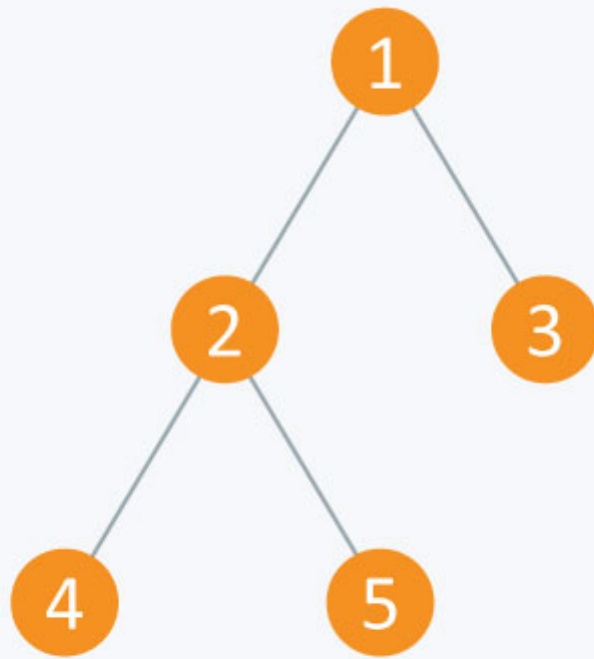
Weighted Graph

- **Cyclic:** A graph is cyclic if the graph comprises a path that starts from a vertex and ends at the same vertex. That path is called a cycle. An acyclic graph is a graph that has no cycle.

A **tree** is an undirected graph in which any two vertices are connected by only one path. A tree is an acyclic graph and has $N - 1$ edges where N is the number of vertices. Each node in a graph may have one or multiple parent nodes. However, in a tree, each node (except the root node) comprises exactly one parent node.

Note: A root node has no parent.

A tree cannot contain any cycles or self loops, however, the same does not apply to graphs.



Tree

Graph representation

You can represent a graph in many ways. The two most common ways of representing a graph is as follows:

Adjacency matrix

An adjacency matrix is a $V \times V$ binary matrix A . Element $A_{i,j}$ is 1 if there is an edge from vertex i to vertex j else $A_{i,j}$ is 0.

Note: A binary matrix is a matrix in which the cells can have only one of two possible values - either a 0 or 1.

The adjacency matrix can also be modified for the weighted graph in which instead of storing 0 or 1 in $A_{i,j}$, the weight or cost of the edge will be stored.

In an undirected graph, if $A_{i,j} = 1$, then $A_{j,i} = 1$. In a directed graph, if $A_{i,j} = 1$, then $A_{j,i}$ may or may not be 1.

Adjacency matrix provides **constant time access ($O(1)$)** to determine if there is an edge between two nodes. Space complexity of the adjacency matrix is $O(V^2)$.

The adjacency matrix of the following graph is:

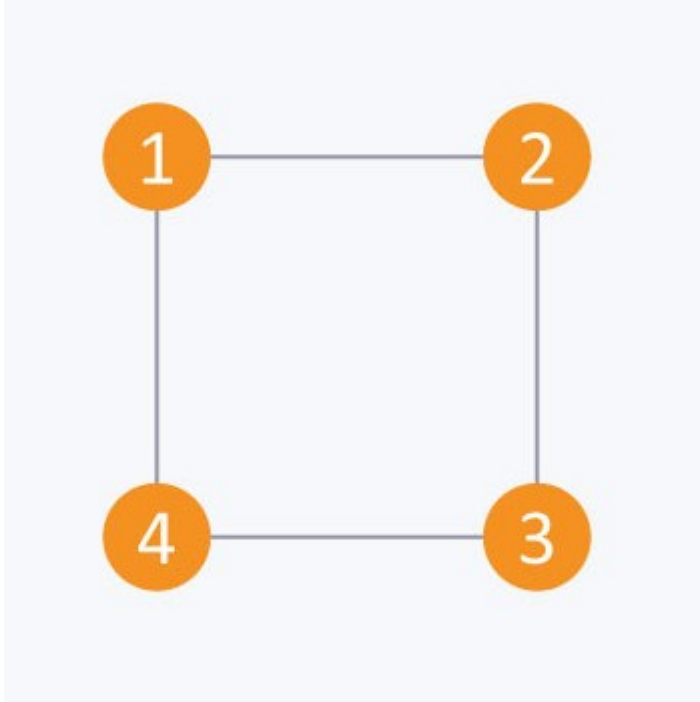
i/j : 1 2 3 4

1 : 0 1 0 1

2 : 1 0 1 0

3 : 0 1 0 1

4 : 1 0 1 0



The adjacency matrix of the following graph is:

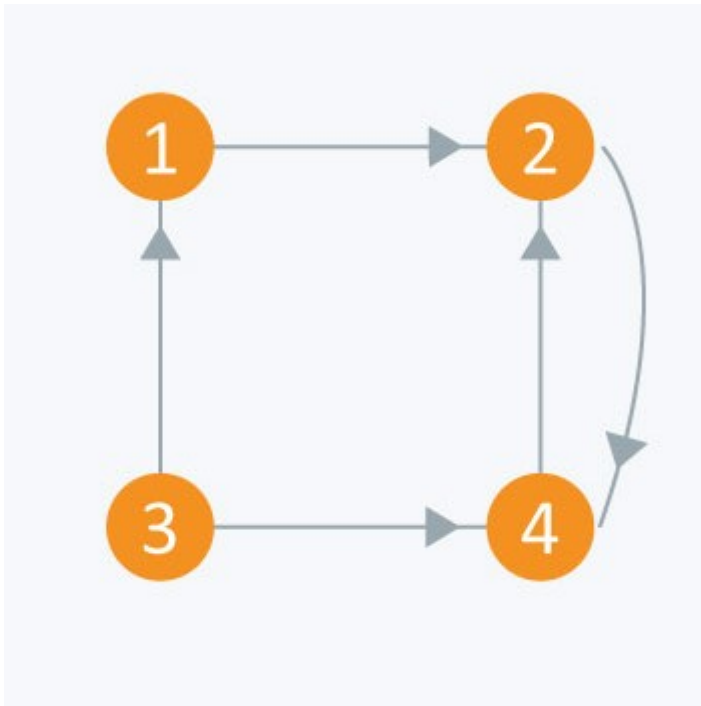
i/j: 1 2 3 4

1 : 0 1 0 0

2 : 0 0 0 1

3 : 1 0 0 1

4 : 0 1 0 0



Consider the directed graph given above. Let's create this graph using an adjacency matrix and then show all the edges that exist in the graph.

Input file

```
4          // nodes
5          //edges
1 2        //showing edge from node 1 to node 2
2 4        //showing edge from node 2 to node 4
3 1        //showing edge from node 3 to node 1
3 4        //showing edge from node 3 to node 4
4 2        //showing edge from node 4 to node 2
```

Code

```
#include <iostream>

using namespace std;

bool A[10][10];

void initialize()
{
    for(int i = 0; i < 10; ++i)
        for(int j = 0; j < 10; ++j)
            A[i][j] = false;
}

int main()
```

```

{
    int x, y, nodes, edges;
    initialize();           //Since there is no edge initially
    cin >> nodes;           //Number of nodes
    cin >> edges;           //Number of edges
    for(int i = 0; i < edges; ++i)
    {
        cin >> x >> y;
        A[x][y] = true;     //Mark the edges from vertex x to vertex y
    }
    if(A[3][4] == true)
        cout << "There is an edge between 3 and 4" << endl;
    else
        cout << "There is no edge between 3 and 4" << endl;

    if(A[2][3] == true)
        cout << "There is an edge between 2 and 3" << endl;
    else
        cout << "There is no edge between 2 and 3" << endl;

    return 0;
}

```

Output

There is an edge between 3 and 4.

There is no edge between 2 and 3.

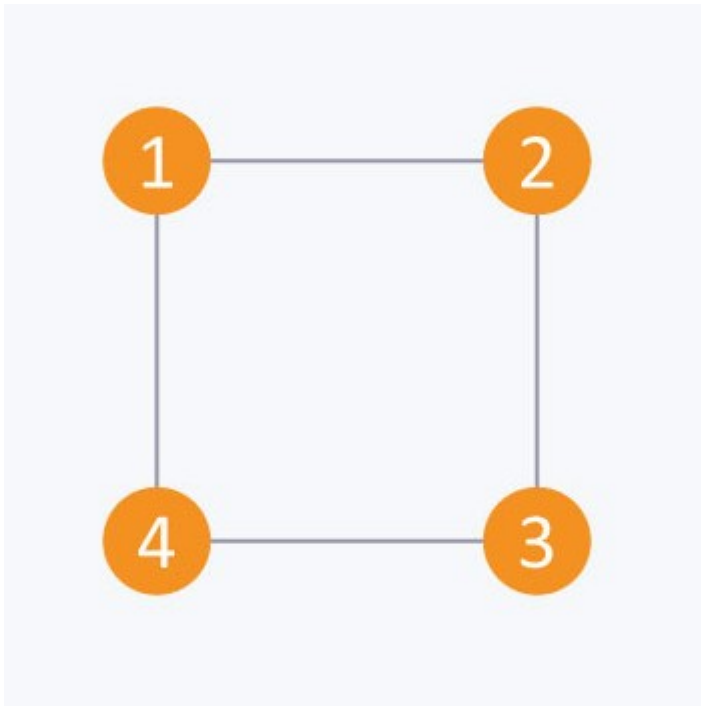
Adjacency list

The other way to represent a graph is by using an adjacency list. An adjacency list is an array A of separate lists. Each element of the array A_i is a list, which contains all the vertices that are adjacent to vertex i .

For a weighted graph, the weight or cost of the edge is stored along with the vertex in the list using pairs. In an undirected graph, if vertex j is in list A_i then vertex i will be in list A_j .

The space complexity of adjacency list is $O(V + E)$ because in an adjacency list information is stored only for those edges that actually exist in the graph. In a lot of cases, where a matrix is sparse using an adjacency matrix may not be very useful. This is because using an adjacency matrix will take up a lot of space where most of the elements will be 0, anyway. In such cases, using an adjacency list is better.

Note: A sparse matrix is a matrix in which most of the elements are zero, whereas a dense matrix is a matrix in which most of the elements are non-zero.



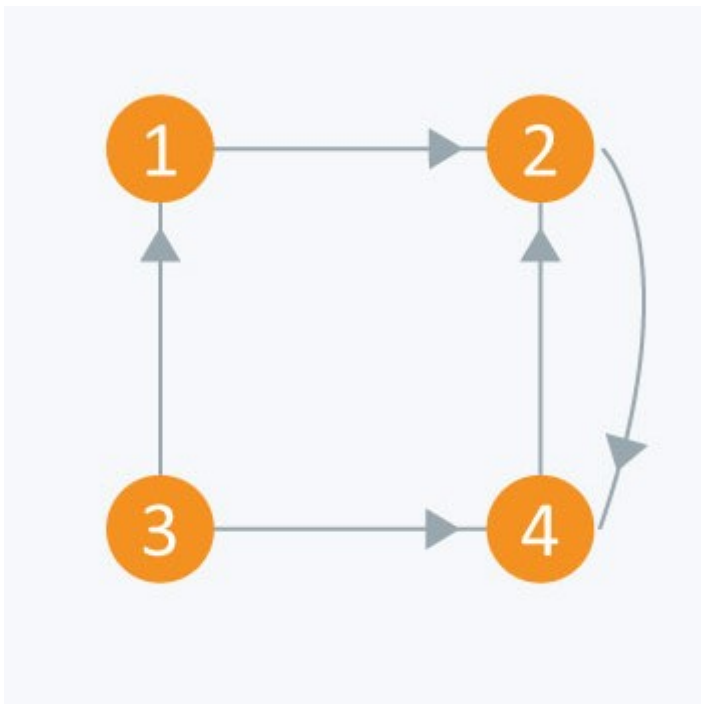
Consider the same undirected graph from an adjacency matrix. The adjacency list of the graph is as follows:

A1 → 2 → 4

A2 → 1 → 3

A3 → 2 → 4

A4 → 1 → 3



Consider the same directed graph from an adjacency matrix. The adjacency list of the graph is as follows:

A1 → 2
A2 → 4
A3 → 1 → 4
A4 → 2

Consider the directed graph given above. The code for this graph is as follows:

Input file

```
4          // nodes
5          //edges
1 2        //showing edge from node 1 to node 2
2 4        //showing edge from node 2 to node 4
3 1        //showing edge from node 3 to node 1
3 4        //showing edge from node 3 to node 4
4 2        //showing edge from node 4 to node 2
```

Code

```
#include<iostream >
#include < vector >

using namespace std;

vector <int> adj[10];

int main()
{
    int x, y, nodes, edges;
    cin >> nodes;          //Number of nodes
    cin >> edges;          //Number of edges
    for(int i = 0;i < edges;++i)
    {
        cin >> x >> y;
        adj[x].push_back(y);    //Insert y in adjacency list of x
    }
    for(int i = 1;i <= nodes;++i)
    {
        cout << "Adjacency list of node " << i << ": ";
        for(int j = 0;j < adj[i].size();++j)
        {
            if(j == adj[i].size() - 1)
                cout << adj[i][j] << endl;
            else
                cout << adj[i][j] << " --> ";
        }
    }
}
```

```
}  
}  
return 0;  
}
```

7

LIVE EVENTS

Output

- Adjacency list of node 1: 2
- Adjacency list of node 2: 4
- Adjacency list of node 3: 1 --> 4
- Adjacency list of node 4: 2

Try out this simple question:

How many edges does a N node tree consist of?

- ☐ N
- ☐ N-1
- ☐ Variable
- ☐ N+1

Submit

Contributed by: Prateek Garg

Did you find this tutorial helpful?



YES



NO

TEST YOUR UNDERSTANDING

Edge Existence

You have been given an undirected graph consisting of N nodes and M edges. This graph can consist of self-loops as well as multiple edges. In addition, you have also been given Q queries. For each query, you shall be given 2 integers A and B . You just need to find if there exists an edge between node A and node B . If yes, print "YES" (without quotes) else, print "NO"(without quotes).

Input Format:

The first line consist of 2 integers N and M denoting the number of nodes and edges respectively. Each of the next M lines consist of 2 integers A and B denoting an undirected edge between node

A and B . The next line contains a single integer Q denoting the number of queries. The next Line contains 2 integers A and B denoting the details of the query.

Output Format

Print Q lines, the answer to each query on a new line.

Constraints:

$$1 \leq N \leq 10^3$$

$$1 \leq M \leq 10^3$$

$$1 \leq A, B \leq N$$

$$1 \leq Q \leq 10^3$$

Enter your code or [Upload your code as file.](#)

Save

C (gcc 4.8.2) ▼



```
1 #include <stdio.h>
2
3 int main()
4 {
5     printf("Hello World!\n");
6     return 0;
7 }
8
```

1:1

☒ Provide custom input

COMPILE & TEST

SUBMIT

💡 Press Ctrl-space for autocomplete suggestions.

POWERED BY code table

COMMENTS (38) SORT BY: **Relevance** 

Join Discussion...

7

Cancel

Post

LIVE EVENTS

**Ashu Shrotriya** 5 months ago

i have tested my code in local as well as by using custom input ,its working fine but over here it is showing "Your code didn't print anything." is this because of i am using adjacency matrix over here and it is taking more space ?? please look into it .

▲ 7 votes ● Reply ● Message ● Permalink

**trialssss** 5 months ago

then your answer is correct . dont worry just submit it

▲ 3 votes ● Reply ● Message ● Permalink

**Ashu Shrotriya** 5 months ago

Thanks ! it worked ! :)

▲ 1 vote ● Reply ● Message ● Permalink

**KUMARI SUMAN** 5 months ago

For the same scenario, it is not taking my code. To check validity of inputs whenever i am printing anything it is only showing '0'. Is the inputs hidden from us or its issue with my code.

▲ 0 votes ● Reply ● Message ● Permalink

**Rohit Koranga**  Edited 3 months ago

```
#include <iostream>
#include <vector>

using namespace std;
vector <int> adj[1000];
int main()
{
    int x, y, nodes, edges, queries, node1, node2;
    cin >> nodes >> edges;
    for(int i = 0; i < nodes; i++)
    {
        cin >> x >> y;
        adj[x].push_back(y); //Insert y in adjacency list of x
    }
    cin >> queries;
    for(int j=0 ; j < queries; j++)
    {
        cin >> node1 >> node2;
        for(int k=0 ; k < adj[node1].size() ; k++)
        {
            if(node2 == adj[node1].at(k))
                cout << "YES" ;

            if(node2 == adj[node1].size()-1)
                cout << "NO" ;
        }
    }
}
```

}

return 0;

}

what is wrong with this code can anyone help

▲ 2 votes ● Reply ● Message ● Permalink

**Parth Shah** a month ago

made some changes!!! and AC

#include <iostream>

#include <vector>

using namespace std;

int main()

{

vector <int> adj[1001]; //values are from 1 to 10^3 therefore u need size 10^3+1

int x, y, nodes, edges, queries, node1, node2;

cin >> nodes >> edges;

for(int i = 0; i < edges; i++) //no of edges needed

{

cin >> x >> y;

adj[x].push_back(y); //Insert y in adjacency list of x

adj[y].push_back(x); //Insert x in adjacency list of y because undirected graph

}

cin >> queries;

bool ans=false;

for(int j=0 ; j < queries; j++)

{

ans=false;

cin >> node1 >> node2;

for(int k=0 ; k < adj[node1].size() ; k++)

{

if(adj[node1][k] == node2)

{

cout << "YES" << endl; //new line per output

ans=true;

break; //if you find it no need to traverse

}

/*if(node2 == adj[node1].size()-1)

cout << "NO" << endl;*/

}

if(!ans)

cout << "NO" << endl;

}

return 0;

}

▲ 0 votes ● Reply ● Message ● Permalink

**Parth Shah** a month ago

I found very strange thing when u define vector<int> adj[1001]; globally it gives segmentation fault but when you define it locally within main it works fine!! maybe because of stack overflow!

▲ 0 votes ● Reply ● Message ● Permalink

**Khushbu Jain** 20 days ago

yes this is weird _-

▲ 0 votes ● Reply ● Message ● Permalink

**Ajish Athrayil** 2 days ago

7

LIVE EVENTS

1. First loop should be till number of edges not nodes.
2. You should push_back both `adj[x].push_back(y)` and `adj[y].push_back(x)` so that the order that it becomes a undirected graph.

▲ 0 votes ● Reply ● Message ● Permalink



Anant Lal 5 months ago

My code is showing "Runtime Error - SIGSEGV". Here is the code I have written:

```
#include <iostream>
#include<vector>
using namespace std;
int adj[1000][1000];
void initilize()
{
for(int i = 1; i <= 1000; i++)
{
for(int j = 1; j <= 1000; j++)
adj[i][j] = 0;
}
}
int main()
{
int m,n,q,a,b;
cin>>n>>m;
initilize();
for(int i = 1; i <= m; i++)
{
cin>>a>>b;
if(a != b)
{
adj[a][b] = 1;
adj[b][a] = 1;
}

}
cin>>q;
while(q--)
{
cin>>a>>b;
if((adj[a][b] == 1) || (adj[b][a] == 1))
cout<<"YES\n";
else
cout<<"NO\n";
}

return 0;
}
```

▲ 1 vote ● Reply ● Message ● Permalink



Ashish Nimbalkar 5 months ago

In initialize function
`i < 1000` instead of `i <= 1000`
`i = 0 ; i < 1000 ; ++i`

▲ 0 votes ● Reply ● Message ● Permalink



Anant Lal 5 months ago

Thanks.

▲ 0 votes ● Reply ● Message ● Permalink

Ramnika Seth 4 months ago



```
#include <iostream>
using namespace std;
int a[50][50];
void initial()
{
    for(int i=0;i<50;i++)
    {
        for(int j=0;j<50;j++)
        {
            a[i][j]=0;
        }
    }
}
int main()
{
    int N,M,A,B,Q,x,y;
    initial();
    cin>>N<<M; //Number of nodes and Edges
    for(int k=0;k<M;k++)
    {
        cin>>A>>B;
        a[A][B]=1;
    }
    cin>>q; //Enter number of queries
    while(q!=0)
    {
        cin>>x>>y;
        if(a[x][y]==1)
        {
            cout<<"Yes";
        }
        else
        {
            cout<<"No";
        }
        i--;
    }
    return 0;
}
```

getting error message showing compilation log..Please anyone tell me the error

▲ 0 votes ● Reply ● Message ● Permalink



Utsav Goel 4 months ago

maximum size is 1000, soc ahnge your array to 1000*1000

▲ 1 vote ● Reply ● Message ● Permalink



Ramnika Seth 4 months ago

Okay,Thankxx

▲ 0 votes ● Reply ● Message ● Permalink



mohammadmahdi abdollahpoor Edited 4 months ago

whats wrong with this????

```
#include <iostream>
using namespace std;
int main()
{

    int N,M;
    cin>>N>>M;
```



```

int graph[1000][1000];
for(int i = 0 ; i < N ; i++ )
{
    for(int j = 0 ; j < N ; j++ )
    {
        graph[i][j]=0;
    }
}
for(int i=0;i<M;i++)
{
    int A,B;
    cin>>A>>B;

    graph[A][B]++;
    graph[B][A]++;

}
int Q;
cin>>Q;
for(int c = 0 ; c<Q ; c++ )
{
    int A1,B1;
    cin>>A1>>B1;
    if(graph[A1][B1]>0)
    {
        cout<<"YES\n";
    }
    else
    {
        cout<<"NO\n";
    }
}
return 0;
}

```

why????""Your code didn't print anything.""

▲ 0 votes ● Reply ● Message ● Permalink



Amit Chauhan 3 months ago

instead of graph[A][B] write graph[A-1][B-1] at all places as entries(values of edges) are from 1,2,3.... whereas your matrix storage is from (0,0),(0,1) and so on.

▲ 1 vote ● Reply ● Message ● Permalink



mohammadmahdi abdollahpoor 3 months ago

thank you it worked

▲ 0 votes ● Reply ● Message ● Permalink



manoj k 3 months ago

cheerup guys.....!!!!This worked for me for all test cases....

```

#include <iostream>
using namespace std;
int main()
{
    int arr[1000][1000],m,n,i,j,q,a,b;
    cin>>n>>m;
    for(i=1;i<=n;i++)
    for(j=1;j<=n;j++)
    arr[i][j]=0;
    for(i=1;i<=m;i++)

```

```
{
cin>>a>>b;
arr[a][b]=1;arr[b][a]=1;
}
cin>>q;
for(i=1;i<=q;i++)
{
cin>>a>>b;
if(arr[a][b]==1){
cout<<"YES";cout<<"\n";}
else{
cout<<"NO"<<"\n";}
}
```

```
return 0;
}
```

▲ 1 vote ● Reply ● Message ● Permalink



Akshath Varugeese 2 months ago

My code is showing SIGSEGV error I don't know why, please help me out.

```
#include<iostream>
#include<stdio.h>
#include<vector>
using namespace std ;
vector <int> adj[1000] ;
int main(){
int N, M, Q ;
int x, y ;
int x1, y1 ;
scanf("%d %d", &N, &M) ;
for(int i = 0 ; i < M ; i++){
scanf("%d %d", &x, &y) ;
adj[x].push_back(y) ;
adj[x][y] = 1 ;
adj[y].push_back(x) ;
adj[y][x] = 1 ;
}
scanf("%d", &Q) ;
while(Q != 0 ){
scanf("%d %d", &x1, &y1) ;
if( adj[x1][y1] == 1 || adj[y1][x1] == 1 )
printf("YES\n") ;
else
printf("NO\n") ;
Q-- ;
}
return 0 ;
}
```

▲ 1 vote ● Reply ● Message ● Permalink



Anik kumar Bhushan 5 months ago

does fgets() function in C produce SIGSEGV error

▲ 0 votes ● Reply ● Message ● Permalink



Mohammad Waliullah 5 months ago

what is the problem with this code,i used two functions just,that's it

```
#include<iostream>
#include<bits/stdc++.h>
```

```

using namespace std;
int A[1000][1000];
int initialize(){
    int i,j;
    for(int i=0;i<1000;i++)
        for(int j=0;j<1000;j++){
            A[i][j]=0;
        }
    }
    int adjmatrix(){
        int x,y,edges;
        for(int i=1;i<=edges;++i){
            cin>>x>>y;
            if(x!=y){
                A[x][y]=1;
                A[y][x]=1;
            }
            //Mark the edges from vertex x to vertex y
        }
    }
    int main(){
        int x,y,nodes,edges;
        cin>>nodes;
        cin>>edges;
        initialize();
        adjmatrix();
        int t;
        cin>>t;
        while(t--){
            cin>>x;
            cin>>y;
            if(A[x][y]==1 || A[y][x]==1){
                cout<<"YES"<<endl;
            }
            else{
                cout<<"NO"<<endl;
            }
        }
    }
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Tushar Gupta 4 months ago

Pass the value of variable "edges" as a parameter in adjmatrix() inside the main function or declare it globally. Everything else is just fine.

▲ 0 votes ● Reply ● Message ● Permalink



Ankit Jain 4 months ago

```

#include<bits/stdc++.h>
using namespace std;
int v[1001][1001];
void initialise(){
    int i,j;
    for(i=0;i<=1001;i++){
        for(j=0;j<=1001;j++){
            v[i][j]=0;
        }
    }
    int main(){
        int n,m;
        cin>>n>>m;
    }
}

```

```

int x,y;
int i;
// vector<int> v[n];
initialise();
for(i=0;i<m;i++){
cin>>x>>y;
v[x][y]=1;
v[y][x]=1;

}
int q;

cin>>q;

for(i=0;i<q;i++){
cin>>x>>y;
if(v[x][y] || v[y][x])
cout<<"Yes"<<endl;
else
cout<<"No"<<endl;
}
return 0;
}

```

getting sigsieve error please help;

▲ 0 votes ● Reply ● Message ● Permalink



Tourist 4 months ago

you have not taken variable to take inputs which are to be checked just take x1,y1 like different input as x and y are already used.
moreover, in function initialize make it
int v[1000][500]
and use < instead of <=
check after these changes.

▲ 0 votes ● Reply ● Message ● Permalink



Shravan 2 months ago

```

#include<iostream>
#include<algorithm>
#include<vector>
#include<queue>
#include<map>
#include<utility>
#include<set>
#include<stack>
#include<list>
#include<deque>
#include<bitset>
#include<iomanip>
#include<cstring>
#include<sstream>
#include<cstdio>
#include<cstdlib>
#include<climits>
#include<cmath>
#include<cctype>

#define pb push_back
#define mp make_pair
#define rep(i,a,b) for(int i=a;i<=b;i++)
#define ren(i,a,b) for(int i=a;i>=b;i--)
#define ff first

```

```

#define ss second
#define pll pair<long long int,long long int>
#define pii pair<int,int>
#define vll vector<long long int>
#define vii vector<int>
#define gi(n) scanf("%d",&n)
#define gll(n) scanf("%lld",&n)
#define gstr(n) scanf("%s",n)
#define gl(n) cin >> n
#define oi(n) printf("%d",n)
#define oll(n) printf("%lld",n)
#define ostr(n) printf("%s",n)
#define ol(n) cout << n
#define os cout<<" "
#define on cout<<"\n"
#define o2(a,b) cout<<a<<" "<<b
#define all(n) n.begin(),n.end()
#define present(s,x) (s.find(x) != s.end())
#define cpresent(s,x) (find(all(s),x) != s.end())
using namespace std;

typedef unsigned long long int ull;
typedef long long int ll;
int main()
{ios_base::sync_with_stdio(false);

vector<int> adj[1005];
int nodes, edges, x, y; cin >> nodes >> edges;
for(int i = 0; i < edges;i++){
cin >> x >> y; adj[x].push_back(y);
}
int q; cin >> q;
while(q--){
cin >> x >> y; bool f = false;
//fisrt node
for(int j = 0; j < adj[x].size();j++){

if(y == adj[x][j]){
f = true; break;
}
}
//second node if is not matched before
if(f == false){
for(int j = 0; j < adj[y].size();j++){
if(x == adj[y][j]){
f = true; break;
}
}
}
if(f) cout << "YES\n";
else cout << "NO\n";
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Shikhar Sharma 2 months ago

wrong input files, Plz look into it.

MY code get AC while using matrix[a-1][b-1] as well as with matrix[a][b]

▲ 0 votes ● Reply ● Message ● Permalink

**Rohit** a month ago

MY logic is Working in 1st go. MY FIRST ON GRAPH THEORY AND I FOUND IT EASY

```
#include <iostream>
using namespace std;
int main()
{
    // cout << "Hello World!" << endl;
    int n,m,a,b,q;
    cin>>n>>m;
    bool mark[1000][1000];
    for(int i=0;i<m;i++)
    for(int j=0;j<m;j++)
    mark[i][j]=false;
    for(int i=0;i<m;i++)
    { cin>>a>>b;
    mark[a][b]=true;}
    cin>>q;
    while(q--){int x,y;
    cin>>x>>y;
    if(mark[x][y]==true)cout<<"YES\n";
    else cout<<"NO\n";}
    return 0;}
```

▲ 0 votes ● Reply ● Message ● Permalink

**Armando Perez** a month ago

/* IMPORTANT: Multiple classes and nested static classes are supported */

```
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.util.*;
class TestClass {
    public static void main(String args[] ) throws Exception {
        int[][] adjMatrix;
        Scanner reader = new Scanner(System.in);
        int nodes, edges, edgeConnection1, edgeConnection2, queryNumber;
        nodes = reader.nextInt();
        edges = reader.nextInt();
        adjMatrix = new int[nodes][nodes];
        for(int i = 0; i < edges; i++) {
            edgeConnection1 = reader.nextInt();
            edgeConnection2 = reader.nextInt();
            adjMatrix[edgeConnection1][edgeConnection2] = 1;
        }
        queryNumber = reader.nextInt();
        for(int i = 0; i < queryNumber; i++) {
            edgeConnection1 = reader.nextInt();
            edgeConnection2 = reader.nextInt();
            if(adjMatrix[edgeConnection1][edgeConnection2] == 1) {
                System.out.println("YES");
            }
            else {
                System.out.println("NO");
            }
        }
    }
}
```

▲ 0 votes ● Reply ● Message ● Permalink

**Amruth Lal** a month ago

```
#include <iostream>
#include<bits/stdc++.h>
using namespace std;
class graph{
list< int> *g;
int size;
public:
graph(int x){
size = x;
g = new list<int> [size];
}
void insert(int u,int v){
g[u-1].push_back(v-1);
g[v-1].push_back(u-1);
}
bool isedge(int a,int b){
list<int> x = g[a-1];
for(list<int>::iterator it = x.begin();it!=x.end();it++){
if(*it==b-1)
return true;
}
return false;
}
};

int main()
{
int n,m,a,b,q;
cin>>n>>m;
graph G(n+1);
while(m--){
cin>>a>>b;
G.insert(a,b);
}
cin>>q;
while(q--){
cin>>a>>b;
if(G.isedge(a,b))
cout<<"YES\n";
else
cout<<"NO\n";
}
return 0;
}
Its working with custom input but is showing segmentation fault for submission. Any idea ?
It
```

▲ 0 votes ● Reply ● Message ● Permalink

**xarilaos** Edited a month ago

pay attention when to use = or ==

▲ 0 votes ● Reply ● Message ● Permalink

**Hariom** 23 days ago

my code is partially accepted what wrong with my code please tell me

```
#include <iostream>
using namespace std;
bool A[1000][1000];
void initilizing (int nodes ){
for(int i=0 ; i<nodes ; ++i)
```

```

for(int j=0 ; j<nodes ; ++j)
A[i][j]=false;
}
int main()
{
int nodes,edges,x,y;
cin >>nodes>>edges;
initilizing(nodes);
for(int i=0 ;i<edges ; i++){
cin>>x>>y;
A[x][y]=true;
A[y][x]=true;
}
int queries,a,b;
cin >>queries;
for(int i=0 ; i<queries ;++i){

cin>>a>>b;
if(A[a][b]) cout<<"YES"<<endl;
else cout<<"NO";

}

return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Siddhant Somani 22 days ago

Just submit it if you are sure of your code but you're getting a SIGSEGV !

▲ 0 votes ● Reply ● Message ● Permalink



Sajid Hasan 15 days ago

Runtime error when I tried to compile and test my code but accepted when I submitted the code. Why does it say "Runtime Error"?

▲ 0 votes ● Reply ● Message ● Permalink



Varun Maurya 4 days ago

```

#include <iostream>
#include <vector>
using namespace std;
vector <int>adj[100000];
int main()
{
int n,m;
cin >> n >> m;
int a,b;
for(int i=1;i<=m;i++){
cin >> a >> b;
adj[a].push_back(b);
adj[b].push_back(a);
}
int q;
cin >> q;
for(int i=0;i<q;i++){
cin >> a >> b;
if(adj[a][b])
cout << "YES\n";
else
cout << "YES\n";
}
}

```



```
return 0;
}
// i think this required some corrections in outputs
```

▲ 0 votes ● Reply ● Message ● Permalink



Deepak Sargar 3 days ago

```
import java.util.LinkedList;
import java.util.Scanner;

public class Edge_existance {
    public static void main(String str[]){
        Scanner s = new Scanner(System.in);
        int Nodes = s.nextInt();
        int Edges = s.nextInt();
        int A,B,Queries;
        boolean result;
        LinkedList<Integer> al[]=new LinkedList[Nodes+1];

        for(int i=1; i<=Nodes; i++)
        {
            al[i] = new LinkedList<Integer>();
        }

        for(int i=1; i<=Edges; i++)
        {
            A = s.nextInt();
            B = s.nextInt();
            al[A].add(B);
            al[B].add(A);
        }
        Queries = s.nextInt();
        for(int i=1; i<=Queries;i++)
        {
            A = s.nextInt();
            B = s.nextInt();
            result = al[A].contains(B);
            if(result)
            {
                System.out.println("YES");
            }
            else
            {
                System.out.println("NO");
            }
        }
    }
}
```

I am also getting same output as "Your code didn't print anything." please can you help me to get resolve this issue

▲ 0 votes ● Reply ● Message ● Permalink



Deepak Sargar Edited 2 days ago

Above code is working in local system but same code throwing 'java.util.NoSuchElementException' exception how to tackle such issue

▲ 0 votes ● Reply ● Message ● Permalink



Deepak Sargar 2 days ago

This issue was because of the nextInt(). I have added check for nodes and edges that whether next interger is available and it is working fine

▲ 0 votes ● Reply ● Message ● Permalink

