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Algorithms

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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.

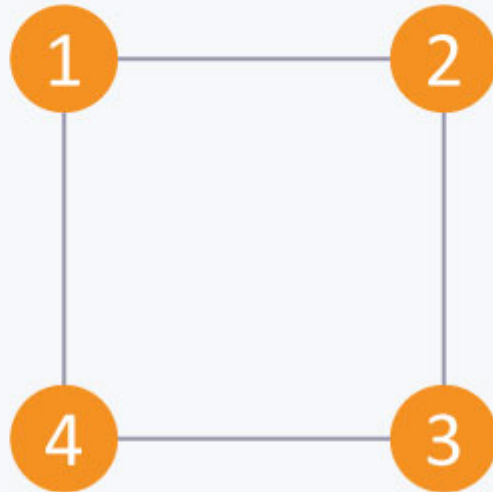
Types of nodes

- **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

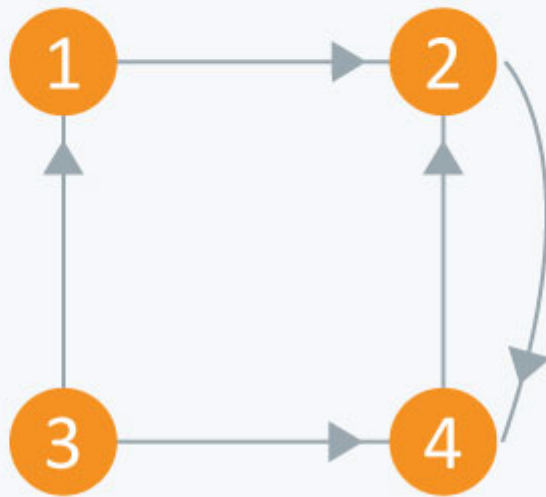
?

- 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

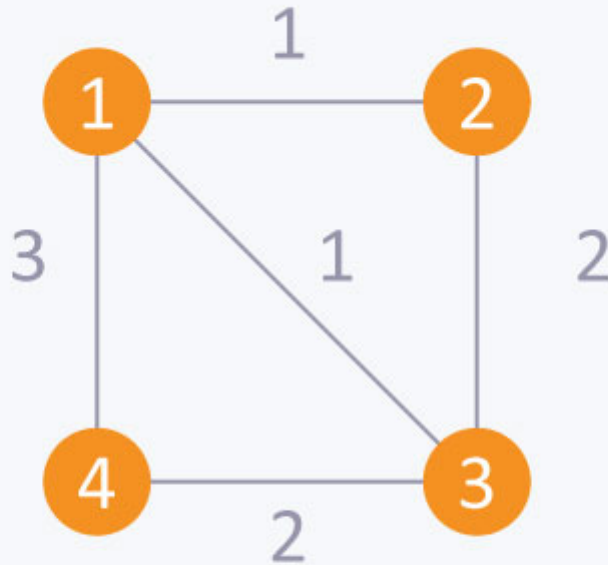
- Directed: A directed graph is a graph in which all the edges are uni-directional i.e. the edges point in a single direction.



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



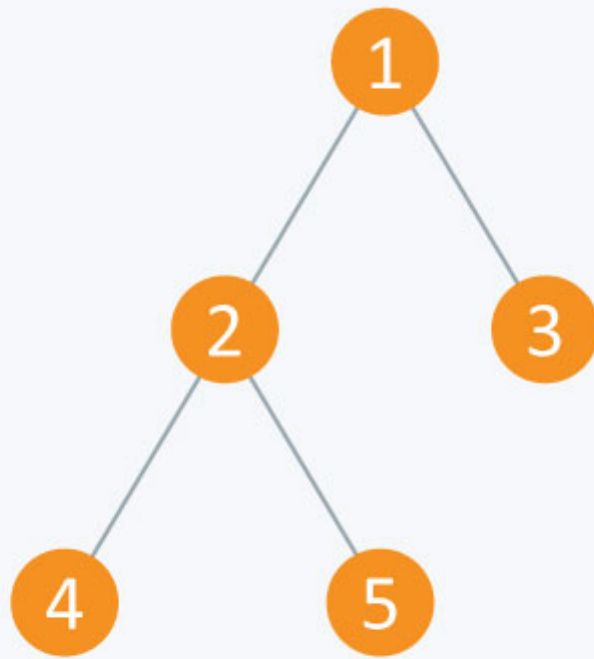
Weighted Graph

- 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:

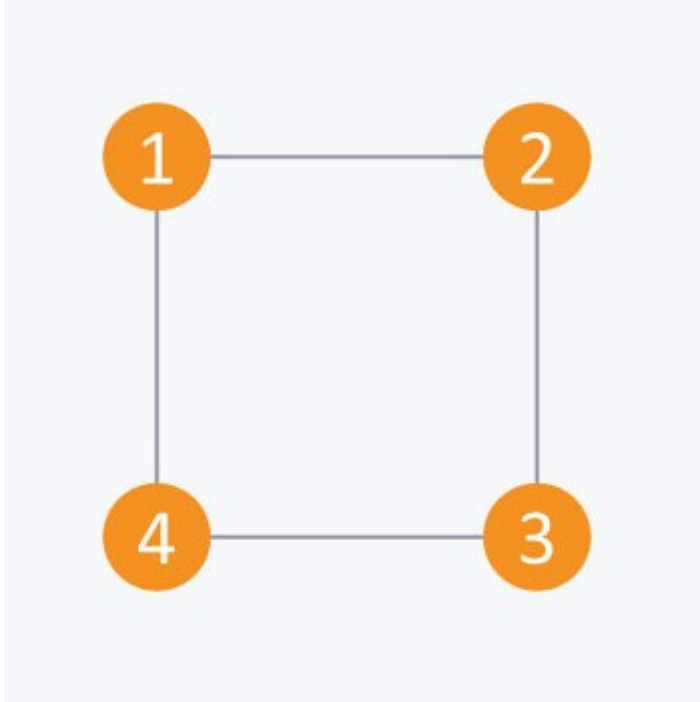
i/j : 1 2 3 4

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:

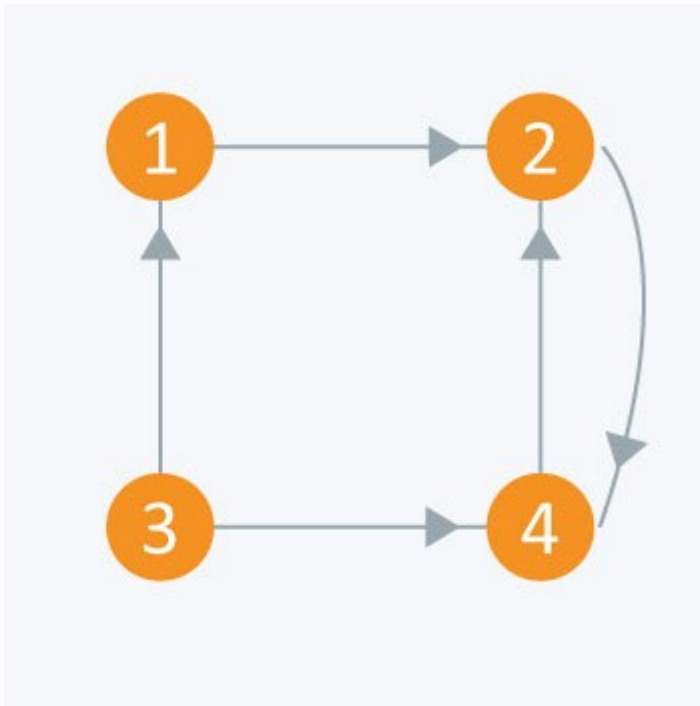
i/j: 1 2 3 4

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.

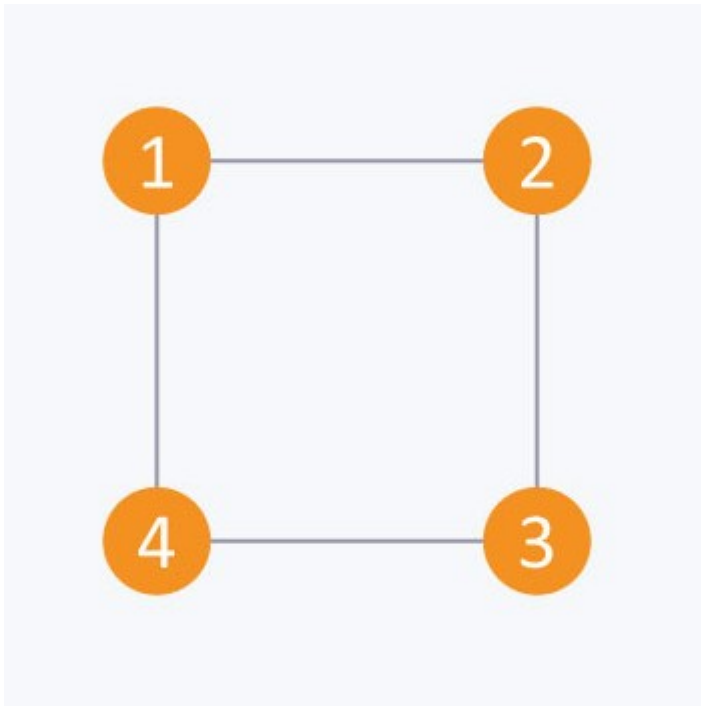
Adjacency list

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. ?



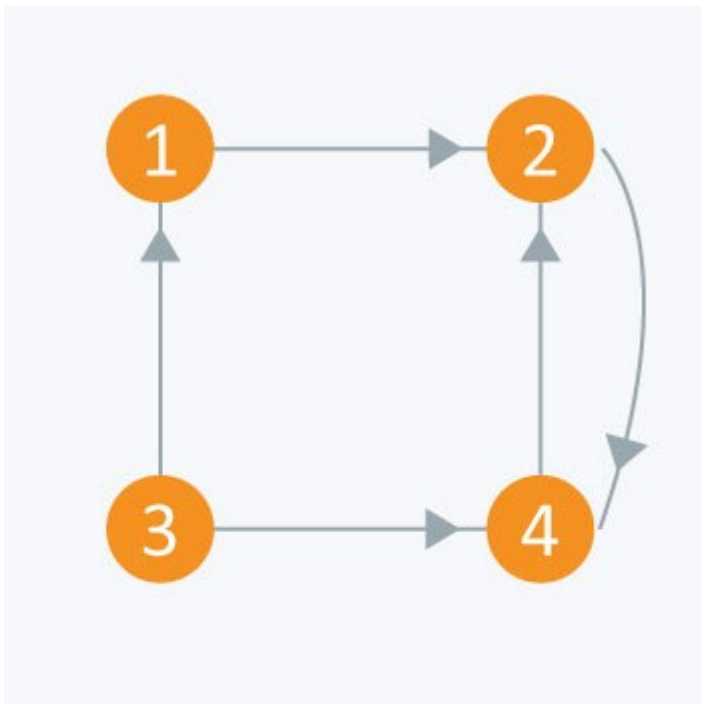
Consider the same undirected graph from an adjacency matrix. The adjacency list of the graph is as follows:

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] << " --> ";
        }
    }
```

3

LIVE EVENTS

?

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

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 consists of 2 integers N and M denoting the number of nodes and edges respectively. Each of the next M lines consists of 2 integers A and B denoting an undirected edge between node ?

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 5.4.0)



```
1  /*
2  // Sample code to perform I/O:
3  #include <stdio.h>
4
5  int main(){
6      int num;
7      scanf("%d", &num);           // Reading input from STDIN
8      printf("Input number is %d.\n", num); // Writing output to STDOUT
9  }
10
11 // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
12 */
13
14 // Write your code here
15
```

1:1

☒ Provide custom input

COMPILE & TEST

SUBMIT

COMMENTS (145)

SORT BY: **Relevance**

Login/Signup to Comment

Ashu Shrotriya 2 years 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 .

▲ 15 votes ● Reply ● Message ● Permalink



trialssss 2 years ago

then your answer is correct . dont worry just submit it

▲ 22 votes ● Reply ● Message ● Permalink



Ashu Shrotriya 2 years ago

Thanks ! it worked ! :)

▲ 2 votes ● Reply ● Message ● Permalink



KUMARI SUMAN 2 years 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



Ritesh Aggarwal 10 months ago

take that array of boolean type outside the main function and crete it like "bool adjMatrix[1000][1000]";

▲ 0 votes ● Reply ● Message ● Permalink



Hendry Suwanda 10 months ago

hahahaha, you right, bro

▲ 0 votes ● Reply ● Message ● Permalink



Shubham Sawlani 5 months ago

IT worked for me too.I was frusturated . Thanx a lot

▲ 0 votes ● Reply ● Message ● Permalink



Rohit Koranga Edited 2 years 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 year 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;
}

```

▲ 3 votes ● Reply ● Message ● Permalink



Samad Khan 9 months ago

what is the use of

```

/*if(node2 == adj[node1].size()-1)
cout << "NO" << endl;*/

```

▲ 1 vote ● Reply ● Message ● Permalink



Parth Shah a year 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!

?

▲ 1 vote ● Reply ● Message ● Permalink



Khushbu Jain a year ago

yes this is weird -_-

▲ 0 votes ● Reply ● Message ● Permalink



Ajish Athrayil a year ago

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.

▲ 1 vote ● Reply ● Message ● Permalink



Nisha Aggarwal a year ago

first for loop till edges not node

▲ 0 votes ● Reply ● Message ● Permalink



Hemant Mangwani a year ago

there are 2 loops j and k so it will always show TLE

▲ 0 votes ● Reply ● Message ● Permalink



Hemant Mangwani a year ago

there are 2 loops j and k so it will always show TLE

▲ 0 votes ● Reply ● Message ● Permalink



md asif khursheed a year ago

adj[x].push_back(y);

adj[y].push_back(x);

as it is undirected

▲ 0 votes ● Reply ● Message ● Permalink



sahil shelangia 7 months ago

Graph is undirected.

2nd ,U declare vector<int>adj[1000] . but it should be 1001

▲ 0 votes ● Reply ● Message ● Permalink



Harshit Jaiswal 5 months ago

```
cin>>q;
```

```
while(q--) {
```

```
int flag=0;
```

```
int x1,y1;
```

```
cin>>x1>>y1;
```

```
for(int j=0;j<adj[x1].size();j++) {
```

```
if(adj[x1][j] == y1) {
```

```
cout<<"YES"<<"\n";
```

```
flag = 1;
```

```
break;
```

```
}
```

```
}
```

```
if(flag == 0)
```

```
cout<<"NO"<<"\n";
```

```
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Anant Lal 2 years 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;
}

```

▲ 3 votes ● Reply ● Message ● Permalink



Ashish Nimbalkar 2 years ago

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

▲ 0 votes ● Reply ● Message ● Permalink



Anant Lal 2 years ago

Thanks.

▲ 1 vote ● Reply ● Message ● Permalink



Koushik Manoj 2 years 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;
}

```

▲ 2 votes ● Reply ● Message ● Permalink



Amrit Swaroop Sinha a year ago

Implementing through adjacencyList is a better approach! Try again!

▲ 1 vote ● Reply ● Message ● Permalink



Pritish Thakkar Edited a year ago

I wrote a blog post on Adjacency List representation of a Graph using STL in C++.

CONTENTS :

Introduction to Adjacency List.

Some STL Componenets required to make Adjacency List: Vector, Pair, Map !

Implementation in C++.

Link : <https://sleepincode.blogspot.in/2017/07/graph-adjacency-list-using-stl-in-c-for.html>

Like, share and comment if you find it useful.

Happy Coding !

▲ 3 votes ● Reply ● Message ● Permalink



chakshu jain a year ago

hey!

just submit your code. "compile & test" is not working properly.

this site is dump. i wasted many hours to debug my corrected codes in many problems here. :(

▲ 2 votes ● Reply ● Message ● Permalink



Aditya Nand 9 months ago

I used DisJoint Set theory to solve it :-

/*

// Sample code to perform I/O:

cin >> name; // Reading input from STDIN

cout << "Hi, " << name << ".\n"; // Writing output to STDOUT

// Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail

*/

// Write your code here

#include <bits/stdc++.h>

using namespace std;

vector<int> head;

int find(int a){

if(head[a]==a)

return a;

return find(head[a]);

?

```

}
void unite(int a, int b){
int roota = find(a);
int rootb = find(b);
head[rootb] = roota;
}
int main(){
int n, m, x, y, q;
cin>>n>>m;
for(int i=0; i<=n; i++)
head.push_back(i);
while(m--){
cin>>x>>y;
unite(x,y);
}
cin>>q;
while(q--){
cin>>x>>y;
if(head[x]==head[y])
cout<<"YES\n";
else
cout<<"NO\n";
}
return 0;
}

```

▲ 1 vote ● Reply ● Message ● Permalink



Vu Tuan Anh 8 months ago

Right. Union-Find algorithm is perfect for this type of problem ^^

▲ 1 vote ● Reply ● Message ● Permalink



Aditya Nand 8 months ago

Yes it is.....!!!

▲ 0 votes ● Reply ● Message ● Permalink



Shadow Bluff 7 months ago

```

#include <iostream>
using namespace std;

```

```

int main(){
int m,n,q,a,b;
cin >> n >> m;
int A[n][n] = {0};
for(int i=0;i<m;i++){
cin >> a >> b;
A[a][b]=1;
A[b][a]=1;
}
cin >> q;
for(int j=0;j<q;j++){
cin >>a >> b;
if(A[a][b]== 1)
{cout << "YES" << endl;}
else {cout << "NO" << endl;}
}
}
}

```

▲ 2 votes ● Reply ● Message ● Permalink

Ramnika Seth 2 years 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 2 years ago

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

▲ 1 vote ● Reply ● Message ● Permalink



Ramnika Seth 2 years ago

Okay,Thankxx

▲ 0 votes ● Reply ● Message ● Permalink



Niraj Singh 4 months ago

```
cin>>N<<M; //Number of nodes and Edges
```

```
cin>>N>>M;
```

▲ 0 votes ● Reply ● Message ● Permalink



mohammadmahdi abdollahpoor Edited 2 years 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 2 years 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 2 years ago

thank you it worked

▲ 0 votes ● Reply ● Message ● Permalink



Akshath Varugeese a year 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



Ushran Gouhar 3 months ago

declare vector <int> adj[1000] locally in main

▲ 0 votes ● Reply ● Message ● Permalink



amrit_97 a year ago

// simple make the adjacency list

```

#include<bits/stdc++.h>
using namespace std;
vector<int> v[10000];
int main()
{
int m,nodes,edges;
int a,b;
cin>>n>>edges;
for(int i=0;i<edges;i++)
{
cin>>a>>b;
v[a].push_back(b);
}
cin>>m;
int h=0;
for(int k=0;k<m;k++)
{
cin>>a>>b;
h=0;
for(int i=0;i<v[a].size();i++)
{
if(v[a][i]==b)
{
h=1;
break;
}
}
if(h==1)

```

?

```
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}
}
```

▲ 1 vote ● Reply ● Message ● Permalink



Amrit Swaroop Sinha a year ago

heres ma sexy code

```
#include <bits/stdc++.h>
using namespace std;
vector<int>vec[1001];
int main()
{
int n,m;
int a,b;
cin>>n>>m;
for(int i=0;i<m;i++)
{
cin>>a>>b;
vec[a].push_back(b);
vec[b].push_back(a);
}
int q,n1,n2,flag=0;
cin>>q;
while(q-->0)
{
flag=0;
cin>>n1>>n2;
try{
for(int j=0;vec[n1].size();j++)
{
if(vec[n1].at(j)==n2)
{
cout<<"YES"<<endl;
flag=1;
break;
}
}
}
catch(exception e)
{
cout<<"NO"<<endl;
}
}
return 0;
}
```

▲ 1 vote ● Reply ● Message ● Permalink



Vedant Gawade 10 months ago

What do they mean ?
Edge or a Path ??

▲ 1 vote ● Reply ● Message ● Permalink



Neetish Singh 10 months ago

#PythonCode It will help You...Simple one...

```
n,m=input().split(" ")
n=int(n)
m=int(m)
aList = ['true'];
```

?

```

w, h = 1000, 1000;
a = [[0 for x in range(w)] for y in range(h)]
for i in range(0,n):
    a[i][i]=0
for i in range(0,m):
    l,k=input().split(" ")
    l=int(l)
    k=int(k)
    a[l][k]=1
q=int(input())
for i in range(0,q):
    pehla,dusra=input().split(" ")
    pehla=int(pehla)
    dusra=int(dusra)
    if(a[pehla][dusra]==1 or a[dusra][pehla]==1):
        aList.append('YES');
    else:aList.append('NO');
for i in range(1,q+1):
    print(aList[i])

```

▲ 1 vote ● Reply ● Message ● Permalink



Ngô Phúc 10 months ago

When you click to COMPILE AND TEST, if you see a notification "Your code didn't print anything", don't worry about that. Just make sure your code is right and submit, your code will be accepted for this problem

▲ 1 vote ● Reply ● Message ● Permalink



pratik mishra 5 months ago

I am implementing this problem like the following:

```

import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.util.*;

// Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
public class Main {
    public static void main(String arg[]){

        int m,n,q,a,b;
        Scanner sc=new Scanner(System.in);
        n=sc.nextInt();
        m=sc.nextInt();
        int A[][]=new int[n][n];
        for(int i=0;i<n;i++){
            for(int j=0;j<n;j++) {
                A[i][j] = 0;
            }
        }
        for(int i=0;i<m;i++){
            a=sc.nextInt();
            b=sc.nextInt();
            A[a][b]=1;
            A[b][a]=1;
        }
        q=sc.nextInt();
        for(int j=0;j<q;j++){
            a=sc.nextInt();
            b=sc.nextInt();
            if(A[a][b]== 1)
                {System.out.println("YES");}
            else {System.out.println("NO");}}
    }
}

```

?

```
}
}
```

after that I am getting this runtime error:

Execution failed.

java.util.NoSuchElementException

Stack Trace:

Exception in thread "main" java.util.NoSuchElementException

at java.util.Scanner.throwFor(Scanner.java:862)

at java.util.Scanner.next(Scanner.java:1485)

at java.util.Scanner.nextInt(Scanner.java:2117)

at java.util.Scanner.nextInt(Scanner.java:2076)

at Main.main(Main.java:14)

Please help me with this problem.

Thanks in advance.

▲ 1 vote ● Reply ● Message ● Permalink



pratik jadhav 4 months ago

```
//javaScript solution
process.stdin.resume();
process.stdin.setEncoding("utf-8");
var stdin_input = "";
process.stdin.on("data", function (input) {
    stdin_input += input; // Reading input from STDIN
});
process.stdin.on("end", function () {
    main(stdin_input);
});
function main(input) {
    let [nm,...rest]=input.split("\n");
    let nmsplit=nm.split(" ");
    let n=Number(nmsplit[0]);
    let m=Number(nmsplit[1]);
    var graph=[];
    let count=1;
    for(let r=0;r<n;r++){
        let row=[];
        for(let c=0;c<m;c++){
            row.push(0);
        }
        graph.push(row)
    }
    let edgeArray=[];
    for(let i=0;i<m;i++){
        edgeArray[i]=rest[i];
    }
    rest.splice(0,m);

    for(let itm of edgeArray){
        let rowcol=[];
        rowcol=itm.split(" ");
        let rowno=Number(rowcol[0]);
        let colno=Number(rowcol[1]);
        for(let item of graph){
            if(graph.indexOf(item)==rowno-1){
                for(let item1 of item){
                    item[colno-1]=1;
                }
            }
        }
        for(let item of graph){
            if(graph.indexOf(item)==colno-1){
```

?


```

for(let item1 of item){
  item[rowno-1]=1;
}
}
rest.splice(0,1);
for(let itm1 of rest){
  let splititm=[];
  splititm=itm1.split(" ");
  let rows=Number(splititm[0]);
  let cols=Number(splititm[1]);
  if(graph[rows-1][cols-1]==1){
    console.log("YES")
  }
  else console.log("NO")
}
}
}

```

▲ 1 vote ● Reply ● Message ● Permalink



Ketul Shah a month ago

My code using Adjacency Matrix

```

#include<bits/stdc++.h>
using namespace std;
#define F(i,a,b) for(int i = (int) a ; i < (int) b ; ++i)
#define M1 1000
int graph[M1][M1];
int main(){
  int N,M,Q,X,A,B;
  memset(graph,0,sizeof(graph[0][0]) * M1 * M1);
  cin >> N;
  cin >> M;
  F(i,0,M){
    cin >> A >> B;
    graph[A][B] = 1;
    graph[B][A] = 1;
  }
  cin >> Q;
  F(i,0,Q){
    cin >> A >> B;
    if(graph[A][B] || graph[B][A])
      cout << "YES" << endl;
    else
      cout << "NO" << endl;
  }

  return 0;
}

```

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Anik kumar Bhushan 2 years ago

does fgets() function in C produce SIGSEGV error

▲ 0 votes ● Reply ● Message ● Permalink



Mohammad Waliullah 2 years 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 2 years 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 2 years 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



Ritika Bharti 2 years 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 a year 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;
//first 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 a year 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 year 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 year 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 year 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 year ago

pay attention when to use = or ==

▲ 0 votes ● Reply ● Message ● Permalink



HariomMaurya a year 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 a year ago

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

▲ 0 votes ● Reply ● Message ● Permalink



Sajid Hasan a year 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 Kumar a year 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 a year 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 a year 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 a year 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

LIT2016023 a year ago

?



can anybody provide good testcases to verify our;s code

▲ 0 votes ● Reply ● Message ● Permalink



Somnath Mirdha a year ago

```
//worked right
#include <stdio.h>
int main()
{
    int n,m;scanf("%d%d",&n,&m);
    int a[1001]={-1};
    int x,y;
    for(int i=0;i<m;i++)
    {
        scanf("%d%d",&x,&y);
        a[x]=y;
        a[y]=x;
    }
    int q;scanf("%d",&q);
    for(int i=0;i<q;i++){
        scanf("%d%d",&x,&y);
        if(a[x]==y)
            printf("YES\n");
        else
            printf("NO\n");
    }
    return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Kanika a year ago

```
#include <stdio.h>
int graph[1005][1005]={0};
int main()
{
    int V,E,i,j,k;
    scanf("%d %d",&V,&E);

    for(i=0;i<V;i++)
    {
        scanf("%d%d",&j,&k);
        graph[j][k]=1;
        graph[k][j]=1;
    }
    int q;
    scanf("%d",&q);
    for(i=0;i<q;i++)
    {
        scanf("%d%d",&j,&k);
        if(graph[j][k]==1)
            printf("YES\n");
        else
            printf("NO\n");
    }
    return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Sagnik Chaudhuri a year ago

Guys, go through this too : <https://www.hackerearth.com/practice/notes/graph-theory-part-i/>

?

▲ 0 votes ● Reply ● Message ● Permalink



Amit Kumar Singh a year ago

```
#include<bits/stdc++.h>
using namespace std;
int main()
{
    bool A[1000][1000];
```

```
    for(int i=0;i<1000;i++)
```

```
    {
        for(int j=0;j<1000;j++)
        {
            A[i][j]=false;
        }
    }
```

```
    int n,e,q;
    int x,y;
    cin>>n>>e;
    for(int i=0;i<e;++i)
    {
        cin>>x>>y;
        A[x][y]=true;
        A[y][x]=true;
    }
```

```
    cin>>q;
    while(q-->0)
    {
        int a,b;
        cin>>a>>b;
        if(A[a][b]==true)
            cout<<"Yes\n";
        else
            cout<<"No\n";
    }
```

```
    return 0;
}
```

Why this show me , your code didn't print anything ??

▲ 0 votes ● Reply ● Message ● Permalink



SATYAJEET BEHERA a year ago

yes && no should all be in upper case and after doing that just submit it

▲ 0 votes ● Reply ● Message ● Permalink



venkata kiran a year ago

WHATS WRONG IN THIS?

```
import java.util.*;
class TestClass {
    public static void main(String args[] ) throws Exception {
```

```
        Scanner s = new Scanner(System.in);
        int n= s.nextInt();
        int m=s.nextInt();
        int[][] a=new int[n][n];
```

```
        int d=0,b=0;
```

?

```

for(int i=0;i<m;i++)
{
d=s.nextInt();
b=s.nextInt();
a[d][b]=1;
}
int test=s.nextInt();
int k=0,l=0;
for(int x=0;x<test;x++)
{
k=s.nextInt();
l=s.nextInt();
if(a[k][l]==1)
System.out.println("YES");
else
System.out.println("NO");
}
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Ritesh a year ago

array a is not initialized

▲ 0 votes ● Reply ● Message ● Permalink



Shubham Singh Manhas a year ago

C++

```

#include <iostream>
#include <vector>
using namespace std;
int main()
{
int n,m,q;
cin >> n >> m;
vector< vector<int> > g(n);
for(int i=0;i<m;i++){
int a,b;
cin >> a >> b;
g[a-1].push_back(b-1);
g[b-1].push_back(a-1);
}
cin >> q;
while(q--){
int a,b,flag=0;
cin >> a >> b;
for(int i=0;i<g[a-1].size();i++){
if(g[a-1][i]==b-1){
flag=1;
break;
}
}
if(flag==1)
cout << "YES" << endl;
else
cout << "NO" << endl;
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink

?

**Rohit Goynar** a year ago

```

import java.util.*;

public class GraphQues {
    public static void main(String args[]){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        int m=sc.nextInt();
        int flag[][]=new int[1005][1005];
        for(int i=0;i<m;i++){
            int x=sc.nextInt();
            int y=sc.nextInt();
            flag[x][y]=1;
            flag[y][x]=1;
        }
        int array[]=new int[1005];
        int q=sc.nextInt();
        for(int i=0;i<q;i++){
            int a=sc.nextInt();
            int b=sc.nextInt();
            if(flag[a][b]==1){
                array[i]=1;
            }
            else
            {
                array[i]=2;
            }
        }
        for(int i=0;i<q;i++){
            if(array[i]==1){
                System.out.println("YES");
            }
            else
                System.out.println("NO");
        }

    }
}

```

▲ 0 votes ● Reply ● Message ● Permalink

**Prateek Singh** Edited a year ago

I got this error:

Note: /hackerearth/JAVA8_1776_a1c7_32c2_f6c6_1500895352/Graph.Graph.java uses unchecked or unsafe operations. Note: Recompile with -Xlint:unchecked for details.

Can anyone explain how to deal with it?

Edit: The problem was solved by using type-safe arraylist but getting Runtime Error - NZEC.

The code has no output While I have written print statement.

▲ 0 votes ● Reply ● Message ● Permalink

**Kunjan Shah** a year ago

```

using System;
using System.Collections.Generic;
using System.Linq;
namespace AdjacencyList
{
    class Program
    {

```

?

```

static void Main(string[] args)
{
    int x, y, nodes, edges;
    nodes = int.Parse(Console.ReadLine());
    edges = int.Parse(Console.ReadLine());
    List<Links> items = new List<Links>();
    for (int i = 0; i < edges; ++i)
    {
        x = int.Parse(Console.ReadLine());
        y = int.Parse(Console.ReadLine());
        items.Add(new Links() { a = x, b = y });
    }
    int query = int.Parse(Console.ReadLine());
    for (int i = 0; i < query; ++i)
    {
        x = int.Parse(Console.ReadLine());
        y = int.Parse(Console.ReadLine());

        bool flag = false;
        foreach (Links item in items)
        {
            if (item.Equals(x, y))
            {
                Console.WriteLine("Yes");
                flag = true;
                break;
            }
        }
        if (!flag)
            Console.WriteLine("No");
    }
}

class Links
{
    public int a;
    public int b;
    public bool Equals(int a, int b)
    {
        return (this.a == a && this.b == b) || (this.a == b && this.b == a);
    }
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Ajith Vijayan a year ago

Program generates correct output in my system and the wrong one in the judge. Why so?

▲ 0 votes ● Reply ● Message ● Permalink



likhith kumar a year ago

```

<code>import java.util.*;
class Matrix {
    public static void main(String args[] ) throws Exception {

```

```

        Scanner sc = new Scanner(System.in);
        int N=sc.nextInt(),M=sc.nextInt();
        int arr[][]=new int[N+1][N+1];
        for(int j=1;j<=M;j++)

```

?

```

{
int a=sc.nextInt(),b=sc.nextInt();
arr[a][b]=1;
arr[b][a]=1;
}
int Q=sc.nextInt();
for(int j=0;j<Q;j++)
{
int a=sc.nextInt(),b=sc.nextInt();
if(arr[a][b]==1)

{
System.out.println("YES");
}
else
{
System.out.println("NO");
}
}
}
}

```

}</code>

▲ 0 votes ● Reply ● Message ● Permalink



Piyush Thakur a year ago

Easy code for the above problem

```

#include <iostream>
#include <vector>
using namespace std;
int main()
{
int n,m,a,b,q;
cin>>n>>m;
int matrix[n][n];
for(int i=0;i<m;i++)
{
cin>>a>>b;
matrix[a][b]=1;
matrix[b][a]=1;
}
cin>>q;
while(q--)
{
cin>>a>>b;
if(matrix[a][b]==1)
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



영진 김 a year ago

what is the query??? i dont understand concept of query...

▲ 0 votes ● Reply ● Message ● Permalink



Hargur Partap Singh Bedi a year ago

?

```
#include<bits/stdc++.h>
using namespace std;
typedef long long int lli;
typedef unsigned long long int ulli;
typedef long long ll;
int main(){
ios_base::sync_with_stdio(0);
lli n=0,m=0,x,y,a,b,queries=0;
cin>>n>>m;
vector<int> adj[n];
for (int i = 0; i < m; ++i){
cin>>x>>y;
adj[x-1].push_back(y-1);
adj[y-1].push_back(x-1);
}
cin>>queries;
for (int i = 0; i < queries; ++i)
{
cin>>a>>b;
if (find(adj[a-1].begin(), adj[a-1].end(),b-1)!=adj[a-1].end()){
cout<<"YES"<<endl;
}else{
cout<<"NO"<<endl;
}
}
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Aman Manocha ✍ Edited a year ago

Failing 2nd test case

```
#include <iostream>
using namespace std;
bool A[1000][1000];
void initialize()
{
for(int i = 0;i < 10;++i)
for(int j = 0;j < 10;++j)
A[i][j] = false;
}
int main()
{
int a,b,q,nodes,edges;
cin>>nodes;
cin>>edges;
for(int i=0;i<edges;i++){
cin>>a>>b;
A[a][b] = true;
}

cin>>q;
while(q--){
int x,y;
cin>>x>>y;
if(A[x][y] = true)
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}
}
```

?

```
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



RABIRANJANA SINGH a year ago

```
import java.io.*;
import java.util.*;
import java.util.LinkedList;
class TestClass
{
private int V;
private LinkedList<Integer> adj[];
```

```
TestClass(int v)
{
V = v;
adj = new LinkedList[V];
for (int i=0; i<v; ++i)
adj[i] = new LinkedList();
}
```

```
void addEdge(int v,int w)
{
adj[v].add(w);
}
```

```
boolean isReachable(int s, int d)
{
LinkedList<Integer>temp;
```

```
boolean visited[] = new boolean[V];
```

```
LinkedList<Integer> queue = new LinkedList<Integer>();
```

```
visited[s]=true;
queue.add(s);
```

```
Iterator<Integer> i;
while (queue.size()!=0)
{
```

```
s = queue.poll();
```

```
int n;
i = adj[s].listIterator();
```

```
while (i.hasNext())
{
n = i.next();
```

```
if (n==d)
return true;
```

?


```

if (!visited[n])
{
    visited[n] = true;
    queue.add(n);
}
}
}

return false;
}

public static void main(String args[])
{
    Scanner sc=new Scanner(System.in);
    int vertex = sc.nextInt();
    int ed=sc.nextInt();
    TestClass g = new TestClass(vertex);

    for(int i=0;i<ed;i++)
    {
        int first=sc.nextInt();
        int sec=sc.nextInt();
        g.addEdge(first, sec);
    }
    int q=sc.nextInt();
    for(int i=0;i<q;i++)
    {
        int a=sc.nextInt();
        int b=sc.nextInt();

        if (g.isReachable(a, b))
            System.out.println("YES");
        else
            System.out.println("NO");
    }
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Vipul Ahuja a year ago

```

#include <iostream>
#include <vector>
using namespace std;
int main()
{
    int n,m,q,i,e,f;
    cin>>n>>m;
    int x[m],y[m];
    for(i=0;i<m;i++)
        cin>>x[i]>>y[i];
    cin>>q;
    for(i=0;i<q;i++)
    {
        cin>>e>>f;
        if(x[i]==e && y[i]==f )
            cout<<"YES\n";
        else

```

?

```
cout<<"NO\n";
}
```

```
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Sameee K P a year ago

After a long time, coding in C++ :-) positive result, encouraging...

```
#include <iostream>
#include <vector>
using namespace std;
int main()
{
    //cout << "Hello World!" << endl;
    int N, M;
    int A, B, Q;
    vector <int> edge_list[1000];
    bool result[1000];

    //cout << "Enter number of nodes: ";
    cin >> N; // nodes
    cin >> M; // edges

    for (int edge = 0; edge < M; edge++)
    {
        // edge, get nodes
        cin >> A >> B;
        A--;
        B--;

        if (A < 1000) {
            edge_list[A].push_back(B);
        }
    }

    // number of queries
    cin >> Q;
    for (int query = 0; query < Q; query++)
    {
        cin >> A >> B; // edges A & B

        A--;
        B--;

        // need to find whether there is a path from A to B
        result[query] = false;
        if (A < 1000)
        {
            for (int i = 0; i < edge_list[A].size(); i++)
            {
                if (edge_list[A][i] == B)
                {
                    result[query] = true;
                    break;
                }
            }
        }
    }
}
```

?

```

}
}

// print result
for (int query = 0; query < Q; query++)
{
    if (result[query])
        cout << "YES" << endl;
    else
        cout << "NO" << endl;
}

return 0;
}

```

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Galilei Nam Nguyen a year ago

I have an idea that we don't use adjacency matrix, so we can cut down some iteration of the loop. Just store those pairs of number representing edge between them in 2 dimensional array `array[E][2]`, making sure that the bigger number is stored first. Now about the query, rearrange to take the same order: bigger number first, smaller number then. Use for loop to check out in the `array[E][2]` whether or not those pairs of number appear

▲ 0 votes ● Reply ● Message ● Permalink



Mohanaprasad a year ago

```

#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;
}

in above code how adj became two dimensional /*adj[i][j]*/

```

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KUNWAR DESH DEEPAK SINGH a year ago

worst ui ever seen

▲ 0 votes ● Reply ● Message ● Permalink

?

**Amulya Gaur** a year ago

no option to downvote a comment :(

▲ 0 votes ● Reply ● Message ● Permalink

**Ajith kumar** a year ago

could any one point out the mistake in this code .In c++ this logic works but in python it doesnt pass

```
A=[[0]*2000]*2000
```

```
arr=input().split()
nodes,edges=[int(i) for i in arr]
for i in range(1,(nodes+1)):
    for j in range(1,(nodes+1)):
        A[i][j]=3
for i in range(1,(edges+1)):
    drr=(input().split())
    x,y=[int(w) for w in drr]
    A[x][y]=1
    A[y][x]=1
query=int(input())
for i in range(1,(query+1)):
    wrr=(input().split())
    g,h=[int(h) for h in wrr]
    if(A[g][h]==1):
        print("YES")
    else:
        print("NO")
```

▲ 0 votes ● Reply ● Message ● Permalink

**Khánh Phạm** a year ago

I'm using Swift 3.1.1, but got the result "Your code didn't print anything". Please help.

```
import Foundation
let n = Int(readLine()!)!
let m = Int(readLine()!)!
var graph = [[Bool]].init(repeating: [Bool].init(repeating: false, count: n), count: n)
for i in 0..

```

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**Abhinav Tripathi** Edited a year ago

I have seen NZEC error many times on hackerearth but the solution is always to surround the code with try-catch! Why does this happen?

Non-Zero-Exit-Code in C/C++ is understandable, but in Java? Shouldn't the JVM take care of this?

?

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Rohit Agarwal a year ago

Working adjacency matrix solution below:

```
#include <iostream>
using namespace std;
int main()
{
    int n,m, a,b, q;
    cin>>n>>m;
    int adj[n+1][n+1];
    for(int i=0;i<=n;i++)
    for(int j=0;j<=n;j++)
    adj[i][j] = 0;
    for(int i=0;i<m;i++) {
        cin>>a>>b;
        adj[a][b] = 1;
        adj[b][a] = 1;
    }
    cin>>q;
    for(int i=0;i<q;i++) {
        cin>>a>>b;
        if(adj[a][b] == 1)
            cout<<"YES"<< endl;
        else
            cout<<"NO" << endl;
    }
    return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Krishna Jha Edited 10 months ago

is this normal ?

when i compile and test it gives SIGSEGV error.

but when i submit it gets accepted.

Is it because my code fails at sample test but pass the original test case?

▲ 0 votes ● Reply ● Message ● Permalink



Pritam Patel Edited 10 months ago

just submit the code after testing yourself..if it is true it'll be accepted..

but if you're doing compile and test it will show seg fault...1st test case contains only one node..that's why your code need not to print anything..

▲ 0 votes ● Reply ● Message ● Permalink



Arpit Goyal 10 months ago

```
#include <bits/stdc++.h>
#include <iostream>
using namespace std;
int main()
{
    ios_base::sync_with_stdio(false);
    cin.tie(NULL);

    int N, M, A, B, Q;
    cin >> N >> M;

    bool g[N+1][N+1];
    while(M--) {
        cin >> A >> B;
```

?

```
g[A][B] = true;
g[B][A] = true;
}
```

```
cin >> Q;
while(Q--) {
    cin >> A >> B;
```

```
if(g[A][B] || g[B][A])
    cout << "YES" << endl;
else cout << "NO" << endl;
}
```

```
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Rajvijay 10 months ago

Whats wrong with this? why do i get SEGMENTATION FAULT?

```
#include <iostream>
#include<vector>
using namespace std;
int main()
{
    // cout << "Hello World!" << endl;
    int m,n,q;
    int i,x,y;
    vector<string> result;
    cin>>n>>m;
    vector<int> adj[m];
    for(i=0;i<m;i++)
    {
        // cout<<"\nEnter edge "<<i+1<<" : ";
        cin>>x>>y;
        adj[x].push_back(y);
        adj[y].push_back(x);
    }
    cin>>q;
    for(i=0;i<q;i++)
    {
        cin>>x>>y;
        if(adj[x][y]==y)
            result.push_back("YES");
        else
            result.push_back("NO");
    }
    for(i=0;i<q;i++)
    {
        cout<<"\n"<<result[i];
    }
}
```

```
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Harshvardhan Pratap Singh 10 months ago

```
#include <iostream>
#include<list>
```

?

```

#include<algorithm>
using namespace std;
int main()
{
    list<int> adlist[1000];
    int n;
    int m;
    cin>>n>>m;
    for(int i=0;i<m;i++){
        int a;
        int b;
        cin>>a>>b;

        adlist[a].push_back(b);
        adlist[b].push_back(a);
    }
    int q;
    cin>>q;
    for(int i=0;i<q;i++){
        int a;
        int b;
        cin>>a>>b;

        list<int>::iterator findIter = find(adlist[a].begin(), adlist[a].end(), b);
        if(findIter==adlist[a].end()){
            cout<<"NO"<<endl;
        }
        else{
            cout<<"YES"<<endl;
        }
    }
    return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Saket Agarwal 9 months ago

Easiest Code:-

```

#include<iostream>
using namespace std;
int main()
{
    int n,m;
    cin>>n>>m;
    bool A[n][n]={0};
    while(m--)
    {
        int a,b;
        cin>>a>>b;
        A[a-1][b-1]=1;
    }
    int q;
    cin>>q;
    while(q--)
    {
        int a,b;

```

?

```

cin>>a>>b;
if(A[a-1][b-1])
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}

}

```

▲ 0 votes ● Reply ● Message ● Permalink



Naveen Gabriel 9 months ago

python 3 code:

```

N,M=input().split(" ")
M=int(M)
adjLists_dict = {}
for i in range(M):
A,B=input().split(" ")
if A in adjLists_dict:
adjLists_dict[A].append(B)
else:
adjLists_dict[A]=[B]
Q=int(input())
for i in range(Q):
A,B=input().split(" ")
if B in adjLists_dict[A]:
print("YES")
else:
print("NO")

```

▲ 0 votes ● Reply ● Message ● Permalink



ayushgupta1997 9 months ago

```

#include <bits/stdc++.h>
using namespace std;
int main(){
int n,m,x,q,y;
vector <int> adj[1001];
cin >> n >> m;
while(m--) {
cin >> x >> y;
adj[x].push_back(y);
adj[y].push_back(x);
}
cin >> q;
while(q--) {
cin >> x >> y;
bool flag = false;
for(int i=0; i<adj[x].size() ;i++){
if(adj[x][i] == y){
flag = true;
}
}
if(flag == true) {
cout << "YES\n";
}
else{
cout << "NO\n";
}
}
}

```

?


```
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Tran Xuan Bach 8 months ago

```
#include <iostream>
using namespace std;
bool a[1000][1000];
void initialize(){
for (int i = 0; i < 1000; ++i)
for (int j = 0; j < 1000; ++j)
a[i][j] = false;
}
int main(){
int x, y, n, m, i, q;
initialize();
cin >> n;
cin >> m;
for (i = 0; i < m; ++i){
cin >> x >> y;
a[x][y] = true;
a[y][x] = true;
}
cin >> q;
for (i = 0; i < q; ++i){
cin >> x >> y;
if (a[x][y]) cout << "YES";
else cout << "NO";
cout << "\n";
}
}
```

▲ 0 votes ● Reply ● Message ● Permalink



Himanshu Ratnani 8 months ago

my code for the problem is :

```
#include<iostream>
#include<vector>
using namespace std;
vector <int> adj[1000];
bool relation_exists(int a, int b){
for(int i=0; i<adj[a].size(); i++){
if(adj[a][i] == b)
return true;
}
return false;
}
int main(){
int nodes, edges;
int x,y;
cin>>nodes;
cin>>edges;
for(int i=0; i<edges; i++){
cin>>x>>y;
adj[x].push_back(y);
}
int a,b;
cin>>a>>b;
int q;
cin>>q;
```

?

```

while(q--){
int result = relation_exists(a,b);
if(result){
cout<<"YES";
}
else{
cout<<"NO";
}
}
}
}

```

It is showing time limit exceeded, can anyone help me to reduce time complexity.
All i am doing is a linear search on adj[a].

▲ 0 votes ● Reply ● Message ● Permalink



achintya sarkar 8 months ago

the while loop is running for q+1 time it should run for q times

correction

```
while(q>0)
```

{also include input for a and b inside this loop for checking all values of edges

```
q--;
```

```
}
```

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Himanshu Ratnani 8 months ago

Ohh i made a blunder in taking values of a and b... thank you mate

▲ 0 votes ● Reply ● Message ● Permalink



achintya sarkar 8 months ago

No problem

OK I got the part about q--

Its like while(0)

▲ 0 votes ● Reply ● Message ● Permalink



Himanshu Ratnani 8 months ago

still getting Time limit exceeded -_-

▲ 0 votes ● Reply ● Message ● Permalink



achintya sarkar 8 months ago

```
/*
```

```
// Sample code to perform I/O:
```

```
cin >> name; // Reading input from STDIN
```

```
cout << "Hi, " << name << ".\n"; // Writing output to STDOUT
```

```
// Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
```

```
*/
```

```
// Write your code here
```

```
#include<iostream>
```

```
#include<vector>
```

```
using namespace std;
```

```
vector <int> adj[1000];
```

```
bool relation_exists(int a, int b){
```

```
for(int i=0; i<adj[a].size(); i++){
```

```
if(adj[a][i] == b)
```

```
return true;
```

```
}
```

```
return false;
```

```
}
```

?

```

int main(){
int nodes, edges;
int x,y;
cin>>nodes;
cin>>edges;
for(int i=0; i<edges; i++)
{
cin>>x>>y;
adj[x].push_back(y);
adj[y].push_back(x);
}

int q;
cin>>q;
while(q>0)
{
int a,b;
cin>>a>>b;
bool result = relation_exists(a,b);
if(result)
{
cout<<"YES";
}
else
{
cout<<"NO";
}
cout<<"\n";
q--;
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



achintya sarkar 8 months ago

Instead of into result its bool result

▲ 0 votes ● Reply ● Message ● Permalink



Gian Darren Azriel Aquino 8 months ago

COMPILE & TEST doesn't have sample input you need to provide it yourself. Anyway they provide good explanation +1

▲ 0 votes ● Reply ● Message ● Permalink



Semih Chelik 8 months ago

GUYS IT WORKED YEHUUUUUUUUU

```

#include <bits/stdc++.h>
#include <string>
#include <queue>
using namespace std;
bool a[1000][1000];
void init(int times)
{
for(int i = 0 ; i<times;i++)
for(int j = 0 ; j<times; j++)
a[i][j] = false;
}

int main()
{
int x,y,nodes,edges,q;

```

?

```

cin>>nodes; //number of nodes
cin>>edges; //number of edges
init(edges);
for(int i = 0;i<edges;i++)
{
    cin>>x>>y;
    a[x][y] = true;
    a[y][x] = true;
}
cin>>q;
for(int i = 0 ; i<q;i++)
{
    cin>>x>>y;
    if(a[x][y] == true or a[y][x] == true)cout<<"YES"<<endl;
    else cout<<"NO"<<endl;
}

return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



Semih Chelik 8 months ago

GUYS IT WORKED YEHUUUUUUUUU

```

#include <bits/stdc++.h>
#include <string>
#include <queue>
using namespace std;
bool a[1000][1000];
void init(int times)
{
    for(int i = 0 ; i<times;i++)
    for(int j = 0 ; j<times; j++)
        a[i][j] = false;
}
int main()
{
    int x,y,nodes,edges,q;

    cin>>nodes; //number of nodes
    cin>>edges; //number of edges
    init(edges);
    for(int i = 0;i<edges;i++)
    {
        cin>>x>>y;
        a[x][y] = true;
        a[y][x] = true;
    }
    cin>>q;
    for(int i = 0 ; i<q;i++)
    {
        cin>>x>>y;
        if(a[x][y] == true or a[y][x] == true)cout<<"YES"<<endl;
        else cout<<"NO"<<endl;
    }

    return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink

Lokesh Sanapalli ✎ Edited 8 months ago



A clean java solution

```

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

class LinkedList{
 Node head, tail;
 private int size;
 private static class Node{
 private int data;
 private Node prev;
 private Node next;
 Node(Node prev, int data, Node next){
 this.prev = prev;
 this.data = data;
 this.next = next;
 }
 }
 LinkedList(){
 this.size = 0;
 }
 void addFirst(int data){
 // Here we will make the new node as first
 LinkedList.Node var2 = this.head;
 LinkedList.Node var3 = new LinkedList.Node(null, data, var2);
 this.head = var3;
 if(var2 == null)
 this.tail = var3;
 else
 var2.prev = var3;
 ++this.size;
 }
 int getSize(){
 return this.size;
 }

 boolean contains(int data){
 Node temp = this.head;
 while(temp!=null){
 if(temp.data == data)
 return true;
 temp = temp.next;
 }
 return false;
 }
}

class TestClass {
 static class Graph{
 int numberOfVerticess;
 LinkedList adjacencyList[];
 Graph(int numberOfVerticess){
 this.numberOfVerticess = numberOfVerticess;
 adjacencyList = new LinkedList[numberOfVerticess];
 for(int i = 0; i< numberOfVerticess; i++)
 adjacencyList[i] = new LinkedList();
 }
 void addEdge(int src, int dest){
 this.adjacencyList[src].addFirst(dest);
 this.adjacencyList[dest].addFirst(src);
 }
 String isedgeExists(int src, int dest){

```

?

```

return this.adjacencyList[src].getSize() > 0 && this.adjacencyList[src].contains(dest) ? "YES" : "NO";
}
}
public static void main(String args[]){
Scanner sc = new Scanner(System.in);
String vertices_and_integers = sc.nextLine();
int vertices = Integer.parseInt(vertices_and_integers.split(" ")[0]); // number of vertices numbering starts with 0
int edges = Integer.parseInt(vertices_and_integers.split(" ")[1]); // number of edges
Graph graph = new Graph(vertices+1);
for(int i=0;i<edges;i++){
String s = sc.nextLine();
int source_vertex = Integer.parseInt(s.split(" ")[0]);
int end_vertex = Integer.parseInt(s.split(" ")[1]);
graph.addEdge(source_vertex, end_vertex);
}
int numberOfQueries = sc.nextInt();
sc.nextLine();
for(int i=0;i<numberOfQueries;i++){
String s = sc.nextLine();
int vertex_a = Integer.parseInt(s.split(" ")[0]);
int vertex_b = Integer.parseInt(s.split(" ")[1]);
System.out.println(graph.isEdgeExists(vertex_a, vertex_b));
}
}
}
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Semih Chelik** 8 months ago

SOLVED WITH ADJACENCY LIST

```

#include <bits/stdc++.h>
#include <string>
#include <queue>
#include <vector>
using namespace std;
vector<int> a[1000];
bool ans = false;
int main()
{
int A,B,nodes,edges,q;
cin>>nodes>>edges;
for(int i = 0 ; i<edges; i++)
{
cin>>A>>B;
a[A].push_back(B);
a[B].push_back(A);
}
cin>>q;
for(int i = 0 ; i <q;i++)
{
cin>>A>>B;
for(int j = 0 ; j<a[A].size();j++)
{
if(a[A][j] == B)
{
cout<<"YES"<<endl;
ans = true;
break;
}
}
}
}

```

?

```

}
if(!ans)cout<<"NO"<<endl;
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Debra D** 8 months ago

This is my first time using hackerearth. My code gives the following error:

/hackerearth/CPP14\_a6/s\_1b.cpp:11:22: fatal error: iostream : No such file or directory compilation terminated.

The error message points to the line `#include<iostream>`. If I cut and paste my code into Visual Studio it works fine. Any suggestions?

▲ 0 votes ● Reply ● Message ● Permalink



**Vikram Singh** 8 months ago

```

#include<bits/stdc++.h>
using namespace std;
vector<int>v[1000];
int main()
{
 int n,m,i;
 cin>>n>>m;
 //vector<int >v[n];
 int a,b;
 for(i=0;i<m;i++)
 {
 cin>>a>>b;
 v[a].push_back(b);
 v[b].push_back(a);
 }

 int q;
 cin>>q;
 int a1,b1;
 for(i=0;i<q;i++)
 {
 cin>>a1>>b1;
 if(count(v[a1].begin(),v[a1].end(),b1)!=0)
 {
 cout<<"YES"<<endl;
 }
 else
 {
 cout<<"NO"<<endl;
 }
 }
 return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Debdeep Bhandari** 7 months ago

There is no test case provided for compile and check so many will get segment error. submit the code to check if the code is correct.

▲ 0 votes ● Reply ● Message ● Permalink



**naghaveer r** 7 months ago

?

Adjacency list time complexity information is missing. you can add that info. Time Complexity :  $O(|V| + |E|)$

▲ 0 votes ● Reply ● Message ● Permalink



**Vishal Sharma** 7 months ago

Wts wrong in my code

```
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;

public class CheckEdge {

 public static void main(String[] args) throws NumberFormatException, IOException {
 boolean[][] graph = new boolean[1000][1000];
 BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
 BufferedWriter bw = new BufferedWriter(new OutputStreamWriter(System.out));
 StringBuilder ip;
 ip = new StringBuilder(br.readLine());
 int n = Integer.parseInt(ip.charAt(0) + "");
 int m = Integer.parseInt(ip.charAt(1) + "");
 for (int i = 0; i < m; i++) {
 ip = new StringBuilder(br.readLine());
 graph[Integer.parseInt(ip.charAt(0) + "")][Integer.parseInt(ip.charAt(1) + "")] = true;
 graph[Integer.parseInt(ip.charAt(1) + "")][Integer.parseInt(ip.charAt(0) + "")] = true;
 }
 int q = br.read();
 for (int j = 0; j < q; j++) {
 ip = new StringBuilder(br.readLine());
 if (graph[Integer.parseInt(ip.charAt(0) + "")][Integer.parseInt(ip.charAt(1) + "")]) {
 bw.write("Yes" + "\n");
 } else {
 bw.write("No" + "\n");
 }
 }
 bw.close();
 }
}
```

▲ 0 votes ● Reply ● Message ● Permalink



**Abhishek Prasad** 6 months ago

Code for c using adjacency matrix :-

```
#include<stdio.h>
main()
{
 int m,n,a,b;
 scanf("%d %d",&n,&m);
 int matrix[n+1][n+1];
 for(int i=1;i<=n;i++)
 {
 for(int j=1;j<=n;j++)
 matrix[i][j]=0;
 }
 for(int i=1;i<=m;i++)
 {
 scanf("%d %d",&a,&b);
 matrix[a][b]=1;
 matrix[b][a]=1;
 }
 int q;
```

?



```
scanf("%d",&q);
for(int i=0;i<q;i++)
{
scanf("%d %d",&a,&b);
if(matrix[a][b]==1)
printf("YES\n");
else
printf("NO\n");
}
}
```

▲ 0 votes ● Reply ● Message ● Permalink



**Raja Hasnain Anwar** 6 months ago

```
#include <iostream>
#include <vector>
#include <algorithm>
using namespace std;
int main(){
int N, M, x, y;
cin >> N >> M;
vector <int> adj[N+1];
for(int i = 0; i < M; i++){
cin >> x >> y;
adj[x].push_back(y);
adj[y].push_back(x);
}
int q;
cin >> q;
for(int i = 0; i < q; i++){
cin >> x >> y;
if(find(adj[x].begin(), adj[x].end(), y) != adj[x].end() || find(adj[y].begin(), adj[y].end(), x) != adj[y].end())
cout << "YES" << endl;
else
cout << "NO" << endl;
}
return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



**Mostafa Khaled** 6 months ago

I have a question about Adjacency list if a number inputs two times for example 3 2 - 3 4 , How will the two values stored in the vector ?

▲ 0 votes ● Reply ● Message ● Permalink



**Khushboo Sharma** 5 months ago

which function should i use to create adjacency list in java ?can anyone post code for adjacency list in java

▲ 0 votes ● Reply ● Message ● Permalink



**Anand Parshuramka** 5 months ago

Error is: Cannot find symbol : Scanner  
Please help

▲ 0 votes ● Reply ● Message ● Permalink



**Ravi Sawlani** a month ago

make sure you have imported java.util.scanner library

▲ 0 votes ● Reply ● Message ● Permalink

?



**New Idea** 5 months ago

```
simple ans
#include<stdio.h>
int main()
{
 int a[1000][1000],n,m,q,A,B,i,j;
 scanf("%d%d",&n,&m);
 for(i=0;i<n;i++)
 for(j=0;j<n;j++)
 a[i][j]=0;
 for(i=0;i<m;i++)
 {
 scanf("%d%d",&A,&B);
 a[--A][--B]=1;
 }
 scanf("%d",&q);
 for(j=0;j<q;j++){
 scanf("%d%d",&A,&B);
 if(a[--A][--B]==1)
 printf("YES\n");
 else
 printf("NO\n");
 }

 return 0;
}
```

▲ 0 votes ● Reply ● Message ● Permalink



**Niraj Singh** [✍](#) Edited 4 months ago

Help...

in some test cases their is nothing output on screen

```
#include<iostream>
#include<list>
using namespace std;
class Graph
{
 int V;
 list<int> *adjlist;
public:
 Graph(int v)
 {
 V=v;
 adjlist=new list<int> [V];
 }
 void addEdge(int u,int v)
 {
 adjlist[u].push_back(v);
 adjlist[v].push_back(u); ///because bidirectional
 }
 void check(int a,int b)
 {
 for(list<int>::iterator it=adjlist[a].begin();
 it!=adjlist[a].end();it++)
 {
 if(*it==b)
 {
 cout<<"YES"<<endl; ///checking if b is present in list of a;
 break;
 }
 if(it==adjlist[a].end())
```

?

```

cout<<"NO"<<endl;
}
}
};
int main()
{
int n,e;
cin>>n>>e;
Graph g(n);
for(int i=0;i<e;i++)
{
int x,y;
cin>>x>>y;
g.addEdge(x,y);
}
int q;
cin>>q;
for(int i=0;i<q;i++)
{
int a,b;
cin>>a>>b;
g.check(a,b);
}
return 0;
}

```

Can anyone please help..

In some test cases their is nothing output on screen

▲ 0 votes ● Reply ● Message ● Permalink



**Deepanshu Jain** 4 months ago

```

#include<bits/stdc++.h>
using namespace std;
vector<int> adj[1000];
int main()
{
int nodes, edges;
cin>>nodes>>edges;
int x,y;
for(int i=0;i<edges;i++)
{
cin>>x>>y;
adj[x].push_back(y);
adj[y].push_back(x); //undirected graph
}
int T,a,b;
cin>>T;
while(T--)
{
cin>>a>>b;
if(find(adj[a].begin(), adj[a].end(), b)!=adj[a].end())
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink

**Swathi GN** 4 months ago

?



```

in C
#include <stdio.h>

int main()
{
 int a,b,i,j,m,n,e,q,k,l,arr[100][100];
 scanf("%d %d",&n,&e);
 for(i=1;i<=n;i++){
 for(j=1;j<=n;j++){
 arr[i][j]=0;
 }
 }
 for (m=1;m<=e;m++){
 scanf("%d %d",&a,&b);
 arr[a][b]=1;
 arr[b][a]=1;
 }
 scanf("%d",&q);
 for(i=1;i<=q;i++){
 scanf("%d %d",&k,&l);
 if(arr[k][l]==1){
 printf("YES");
 }else {
 printf("NO");
 }
 }
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Kaoutar bennani** 4 months ago

here is my code, it works for submission , but not for the test:

```

public static void main(String args[]) throws Exception {
 Scanner sc = new Scanner(System.in);
 int n = sc.nextInt();
 int m = sc.nextInt();
 int [][]graph = new int[n][n];
 for(int i=0; i<m ;i++) {
 int a =sc.nextInt();
 int b= sc.nextInt();
 graph[a][b]=1;
 graph[b][a]=1;
 }
 int q =sc.nextInt();
 for(int i=0; i<q ;i++) {
 int a =sc.nextInt();
 int b= sc.nextInt();
 if(graph[a][b]==1 && graph[b][a]==1) {
 System.out.println("YES");
 }
 else
 System.out.println("NO");
 }
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Allen Mac** 4 months ago

I don't understand the "Test your understanding" asking for input. Where is the data that I can use to determine the edges between nodes?

▲ 0 votes ● Reply ● Message ● Permalink

?

**Jitendra Gupta** 3 months ago



Compile and test Input doesn't make sense... They are giving  $n = 0$ , whereas the problem description says  $n \geq 1$ . Admins please fix this

▲ 0 votes ● Reply ● Message ● Permalink



**Gaurang** Edited 3 months ago

```
//passes all my test cases;
//edge exists print yes
//edge does not exist print no
#include<iostream>
#include<bits/stdc++.h>
using namespace std;
int main(){
int n;//nodes
int m;//edges
cin>>n;
cin>>m;
int a,b;
bool check[10000][10000];
for(int i=0;i<m;i++){
cin>>a;
cin>>b;
check[a][b]=true;
check[b][a]=true;
}
int q;
cin>>q;
int x,y;
for(int i=0;i<q;i++){
cin>>x;
cin>>y;
//check edge exists between x and y;
if(check[x][y]==true && check[y][x]==true){
cout<<"YES"<<endl;
}
else{
cout<<"NO"<<endl;
}

}
}
```

▲ 0 votes ● Reply ● Message ● Permalink



**Jatin007** 3 months ago

```
#include <bits/stdc++.h>
using namespace std;
int main()
{
int n,m;
cin>>n>>m;
vector<int> v[n];
for(int i=0;i<m;i++)
{
int s,f;
cin>>s>>f;
v[s].push_back(f);
}
int q;
cin>>q;
for(int i=0;i<q;i++)
{
```

?

```

int a,b;
cin>>a>>b;
if(binary_search(v[a].begin(),v[a].end(),b) | | binary_search(v[b].begin(),v[b].end(),a))
cout<<"YES"<<endl;
else
cout<<"NO"<<endl;
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**pgupta** 3 months ago

```

#include <bits/stdc++.h>
using namespace std;
main(){
int N,M;
cin >> N >> M;
vector<int> E[1000];
for(int i =0;i<M;i++){
int A,B;
cin >> A >> B;
E[A].push_back(B);
E[B].push_back(A);
}
int Q;
cin >> Q;
while(Q--){
int A,B;
cin >> A >> B;
if(find(E[A].begin(),E[A].end(),B) != E[A].end()){
cout << true << endl;
}else{
cout << false << endl;
}
}
}
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**prashant kumar shekhar** 3 months ago

Yes just submit it,Compile & Test behaving abnormally.

▲ 0 votes ● Reply ● Message ● Permalink



**Ambuj Sahu** 3 months ago

```

me also tested my code locally as well as bu using custom input
but it is showing error 'EOF'
pls look into in and reply
N,E = [int (x) for x in input().split()]
Arr = [[0]*N for x in range(N)]
for i in range(E):
u,v = [int (x) for x in input().split()]
u = u-1
v =v-1
Arr[u][v]=1
Arr[v][u]=1

```

```

Q = int(input())
for i in range(Q):
u,v = [int (x) for x in input().split()]
u=u-1

```

?

```

v=v-1
if(Arr[u][v]==1):
print('YES')
else:
print('NO')

```

▲ 0 votes ● Reply ● Message ● Permalink



**Jilson Joseph** 2 months ago

Is the Compile & Test button there to just annoy people? because even though code compiles and prints the correct answer in other IDE, and its ok here also when you hit submit button, but when compile & test button there is always something wrong.

▲ 0 votes ● Reply ● Message ● Permalink



**siddhartha addanki** Edited 2 months ago

SAMPLE INPUT

3 (number nodes)

3 (number of edges)

3 (edge1)

1 (edge1)

1 (edge2)

2 (edge2)

2 (edge3)

3 (edge3)

2 (number of queries)

1 (from node)

3 (to node)

2 (from node)

1 (to node)

My output:

YES

YES

RESULT: WRONG ANSWER

but the output I got is correct.

SUBMIT IS SUCCESSFUL.

▲ 0 votes ● Reply ● Message ● Permalink



**abhishek kotkar** a month ago

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

```
using namespace std;
```

```
int main()
```

```
{
```

```
int n,m;
```

```
cin>>n;
```

```
cin>>m;
```

```
int start,end;
```

```
vector <int> a[1001];
```

```
while(m--)
```

```
{
```

```
cin>>start;
```

```
cin>>end;
```

```
a[start].push_back(end);
```

```
a[end].push_back(end);
```

```
}
```

```
int q;
```

```
cin>>q;
```

```
while(q--)
```

```
{
```

```
int flag=0;
```

```
cin>>start>>end;
```

?

```

for(int i=0;i<a[start].size();i++)
{
if(a[start][i]==end)
{
cout<<"YES\n";
flag=1;
}
}
if(flag==0)
cout<<"NO\n";
}
return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Priya Bhimjyani** a month ago

```

#include<iostream>
#include<vector>
using namespace std;
int main()
{
int N,M;
cin>>N>>M;
int A, B;
vector <int> adj[1000];
for(int i=0;i<M;i++)
{
cin>>A>>B;
adj[A].push_back(B);
}

int Q;
cin>>Q;
int node1,node2;

for(int i=0;i<Q;i++)
{
cin>>node1>>node2;
int flag=0;
for(int k=0;k<adj[node1].size();k++)
{
if(adj[node1][k]==node2)
{
flag=1;
break;
}
}
if(flag==0)
cout<<"NO"<<endl;
else
cout<<"YES"<<endl;
}

return 0;
}

```

▲ 0 votes ● Reply ● Message ● Permalink



**Tienan Zhang** a month ago

C implementation  
#include<stdio.h>

?



```
#include<stdlib.h>
int main() {
int Nnodes, Nedges, **adjMat, Nqueries, nodeA, nodeB, i, j;
scanf("%d %d", &Nnodes, &Nedges);
adjMat = (int**)malloc(sizeof(int*) * Nnodes);
for(i = 0; i < Nnodes; i++) {
adjMat[i] = (int*)malloc(sizeof(int) * Nnodes);
for (j = 0; j < Nnodes; j++) {
adjMat[i][j] = 0;
}
}
for(i = 0; i < Nedges; i++) {
scanf("%d %d", &nodeA, &nodeB);
adjMat[nodeA - 1][nodeB - 1] = 1;
adjMat[nodeB - 1][nodeA - 1] = 1;
}
scanf("%d", &Nqueries);
for(i = 0; i < Nqueries; i++) {
scanf("%d %d", &nodeA, &nodeB);
if (adjMat[nodeA - 1][nodeB - 1] == 1) {
printf("YES\n");
} else {
printf("NO\n");
}
}
}
}
```

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**sai rochan** 6 days ago

is there some problem with the judge?? got 10 on 10 !!

```
#include <stdio.h>
int main(){
int n,e;
scanf("%d %d", &n,&e); // Reading input from STDIN
int ar[n][e],i;
int arr[n*2+100];
for(i=0;i<e;i++){
int a,b;
scanf("%d %d",&a,&b);
ar[a][b]=1;
}
int q;scanf("%d",&q);
while(q--){
int t1,t2;
scanf("%d %d",&t1,&t2);
if(ar[t1][t2]==1)
printf("YES\n");
else
printf("NO\n");
}
}
```

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**RAJ SHEKHAR** 6 days ago

```
adj=[0]*10
print "Enter the number of nodes:."
nodes=input()
edges=input()
print "Enter the edges:."
```

?

```
for i in range(0,edges):
x,y=raw_input().split(' ')
x,y=[int(x),int(y)]
if adj[x]==0:
adj[x]=[]
adj[x].append(y)
else:
adj[x].append(y)
print adj
for i in range(1,nodes+1):
print "Adjacency list of node",i,"::",
for j in range(0,len(adj[i])):
if j == len(adj[i])-1:
print adj[i][j]
else:
print adj[i][j],"--->",
```

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