



Maximum size of a set

Attempted by: 354 / Accuracy: 53% / Maximum Points: 30 / ★★☆☆☆ 7 Votes

Tag(s): Algorithms, C++, Graphs, Topological Sort

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You are given a DAG G with N nodes and M edges. You are building a graph G^* . G^* contains the same vertex set as G and all edges are available in G . Moreover,

1. If there exists an edge between vertex u and v in G , then there does not exist an edge between vertex v and u in G^* .
2. If there exists an edge between vertex u and v in G and also between v and w in G , then there exists an edge between vertex u and w in G^* .

For G^* , find the maximum possible size of S where S is a set of vertices in G^* such that there exists an edge between every unordered pair of vertex present in S .

The meaning of unordered is that there must exist an edge between every pair of vertex (u,v) , that is, either $u \rightarrow v$ or $v \rightarrow u$ must be in an edge set.

Input format

- The first line contain two integer N and M describing nodes and edges in graph G .
- Next M lines contain two integers u and v representing an edge from u to v .

Output format

Print the maximum possible size of set S .

Constraints

$$1 \leq N \leq 200000$$

$$1 \leq M \leq 1000000$$

SAMPLE INPUT



```
3 2
1 2
2 3
```

SAMPLE OUTPUT



```
3
```

Explanation

G^* has following edges.



```
1 -> 2
2 -> 3
1 -> 3
```

Take $S = \{1, 2, 3\}$. It is a valid choice as every pair of vertex has an edge between them.

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded when all the testcases pass.
Allowed Languages:	Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

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
12 // cases to fail
13 */
14 // Write your code here
15
```

1:1 vscode

☒ Provide custom input

COMPILE & TEST

SUBMIT

?

Your Rating:

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6
LIVE EVENTS

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Find The Array

Attempted By: 200 / Accuracy: 49

Oliver And The Game

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