



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP RAYAN 🖫

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

A. Ice Skating

time limit per test: 2 seconds memory limit per test: 256 megabytes

Bajtek is learning to skate on ice. He's a beginner, so his only mode of transportation is pushing off from a snow drift to the north, east, south or west and sliding until he lands in another snow drift. He has noticed that in this way it's impossible to get from some snow drifts to some other by any sequence of moves. He now wants to heap up some additional snow drifts, so that he can get from any snow drift to any other one. He asked you to find the minimal number of snow drifts that need to be created.

We assume that Bajtek can only heap up snow drifts at integer coordinates.

Input

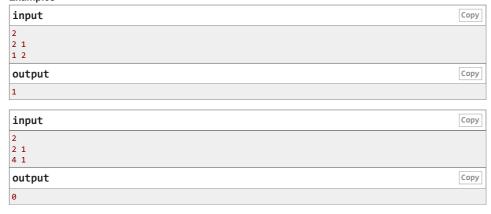
The first line of input contains a single integer n ($1 \le n \le 100$) — the number of snow drifts. Each of the following n lines contains two integers x_i and y_i ($1 \le x_i, y_i \le 1000$) — the coordinates of the i-th snow drift.

Note that the north direction coincides with the direction of Oy axis, so the east direction coincides with the direction of the Ox axis. All snow drift's locations are distinct.

Output

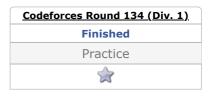
Output the minimal number of snow drifts that need to be created in order for Bajtek to be able to reach any snow drift from any other one.

Examples



→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.



ightarrow Virtual participation	
\rightarrow Clone Contest to Mashup	~
You can clone this contest to a mashup.	

Clone Contest

→ Submit?			
Language:	GNU G++17 7.3.0	~	
Choose file:	Choose File No file chosen		
	Submit		

ightarrow Last submissions			
Submission	Time	Verdict	
315274912	Apr/13/2025 13:43	Accepted	

→ Problem tags				
brute force dfs and similar dsu				
graphs *1200				
	No tag edit access			

→ Contest materials	
Codeforces Round #134	×
• Tutorial (en)	×

Codeforces (c) Copyright 2010-2025 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Apr/13/2025 16:15:52^{UTC+5.5} (l2).
Desktop version, switch to mobile version.
Privacy Policy | Terms and Conditions

Supported by

