## Cycles P36563_en

Given a directed graph with $n$ vertices and $m$ arcs, can you keep exactly $n$ arcs (and remove the rest) in such a way that every vertex belongs to one cycle of the resulting graph?

### Input

Input consists of several cases, each one with $n$ and $m$, followed by $n$ pairs $x$ $y$ to indicate an arc from $x$ to $y$, with $x \neq y$. Assume $2 \leq n \leq 1000$, $n \leq m \leq 5n$, that vertices are numbered from 0 to $n - 1$, and that there are no repeated arcs.

### Output

Print one line for every given graph. If there is no solution, print "`no`". Otherwise, print "`yes`" followed by the $n$ chosen arcs in any order. If there is more than one solution, you can print any one. Follow strictly the format of the sample output.

### Hint

Consider the max-flow problem.

### Sample input 1

```
3 3
0 1  1 2  2 0
3 4
0 1  1 2  2 1  1 0
4 6
0 2  2 1  1 3  3 0  2 0  3 1
4 6
0 2  2 1  1 3  3 0  2 0  3 1
```

### Sample output 1

```
yes  0 1  1 2  2 0
no
yes  0 2  1 3  2 1  3 0
yes  2 0  3 1  1 3  0 2
```

### Problem information

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