# Sorting

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|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 1024 megabytes |

You are given $m$ pairs $(a_i, b_i)$, $1 \le a_i < b_i \le n$, we define the following program to sort a permutation:

```
for i = 1 to 1000000000000000000:
    for j = 1 to m:
        if p[a[j]] > p[b[j]]:
            swap(p[a[j]], p[b[j]])
```

Check whether it can sort every permutation $p$ of length $n$.

## Input

The first line contains two integers $n$ and $m$ ($2 \le n \le 2 \times 10^5$, $1 \le m \le 2 \times 10^5$). The following are $m$ lines, every line contains two integers $(a_i, b_i)$ ($1 \le a_i < b_i \le n$).

## Output

Output `Yes` if it can sort every permutation of length $n$, and `No` if it cannot.

## Examples

| standard input | standard output |
|---|---|
| 5 7<br>1 3<br>1 3<br>2 4<br>3 5<br>1 4<br>2 5<br>1 5 | No |
| 5 8<br>2 3<br>3 5<br>1 5<br>3 4<br>1 3<br>4 5<br>2 5<br>1 2 | Yes |