Problem G. Sorting

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 1 3 1 3 2 4 3 5 1 4 2 5 1 5	No
5 8 2 3 3 5 1 5 3 4 1 3 4 5 2 5 1 2	Yes