

Problem G. Popo sort

Input file: **stdin**
Output file: **stdout**
Time limit: 1 second
Memory limit: 512 megabytes

Popo, one of bobo's silly friends, is learning bogo sort. He immediately invents his own version, as shown in the following code.

```
function sort(s)
  success := False
  for i := 1, 2, ..., m do
    if s[a[i]] > s[b[i]] then
      swap s[a[i]] and s[b[i]]
      success := True
    end
  end
  if success then
    return sort(s)
  else
    return s
  end
end
```

Determine whether Popo's version is correct (can sort all possible sequences of length n into non-descending order).

Input

The first line contains 2 integers n, m ($1 \leq n \leq 1000000, 0 \leq m \leq 1000000$).

Each of the following m lines contains 2 integers a_i, b_i ($1 \leq a_i, b_i \leq n$).

Output

Print "Yes" if the version is correct, or "No" otherwise.

Sample input and output

stdin	stdout
3 2 1 2 2 3	Yes
2 2 1 2 2 1	No