

Input Format

The first input line has two integers *n* and *m*: the number of students and friendships. The students are numbered 1, 2, ..., *n*. Then, there are *m* lines describing friendships. Each line has two integers *a* and *b*: students *a* and *b* are friends.

Every friendship is between two different students. You can assume that there is at most one friendship between any two students.

Output Format

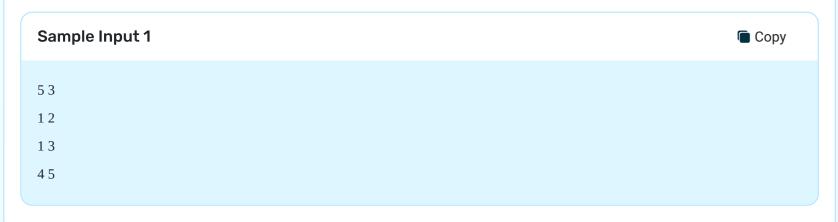
Print 'YES' if it's possible to divide students in two teams, otherwise print 'NO'.

Constraints

 $1 \le n \le 10^5$

 $1 \le m \le 2 \times 10^5$

 $1 \le a, b \le n$



```
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                                   12 px ∨
              11 (COCO! [V]--O/[
15
                  dfs(v);
16
17
              else if(color[v]!=col){
18
                  is_valid=false;
19
20
21
          col=1^2^col;
22
    }
23
     int main(){
24
          ios_base::sync_with_stdio(0);
25
          cin.tie(0);
26
          cout.tie(0);
27
          cin>>n>>m;
28
         g.resize(n+1);
29
          color.assign(n+1,0);
30
          for(int i=0;i<m;i++){</pre>
31
              int a,b;
32
              cin>>a>>b;
33
              g[a].emplace_back(b);
34
              g[b].emplace_back(a);
35
36
         col=1;
37
          for(int i=1;i<=n;i++){</pre>
38
              if(color[i]==0){
39
                  dfs(i);
40
41
42
         if(is valid){
43
              cout<<"YES"<<endl;</pre>
44
45
          else{
46
              cout<<"N0"<<endl;</pre>
47
48
          return 0;
49
     }
  Sample Tests
                   Manual Tests
                                                      Run on Sample
    Console
```