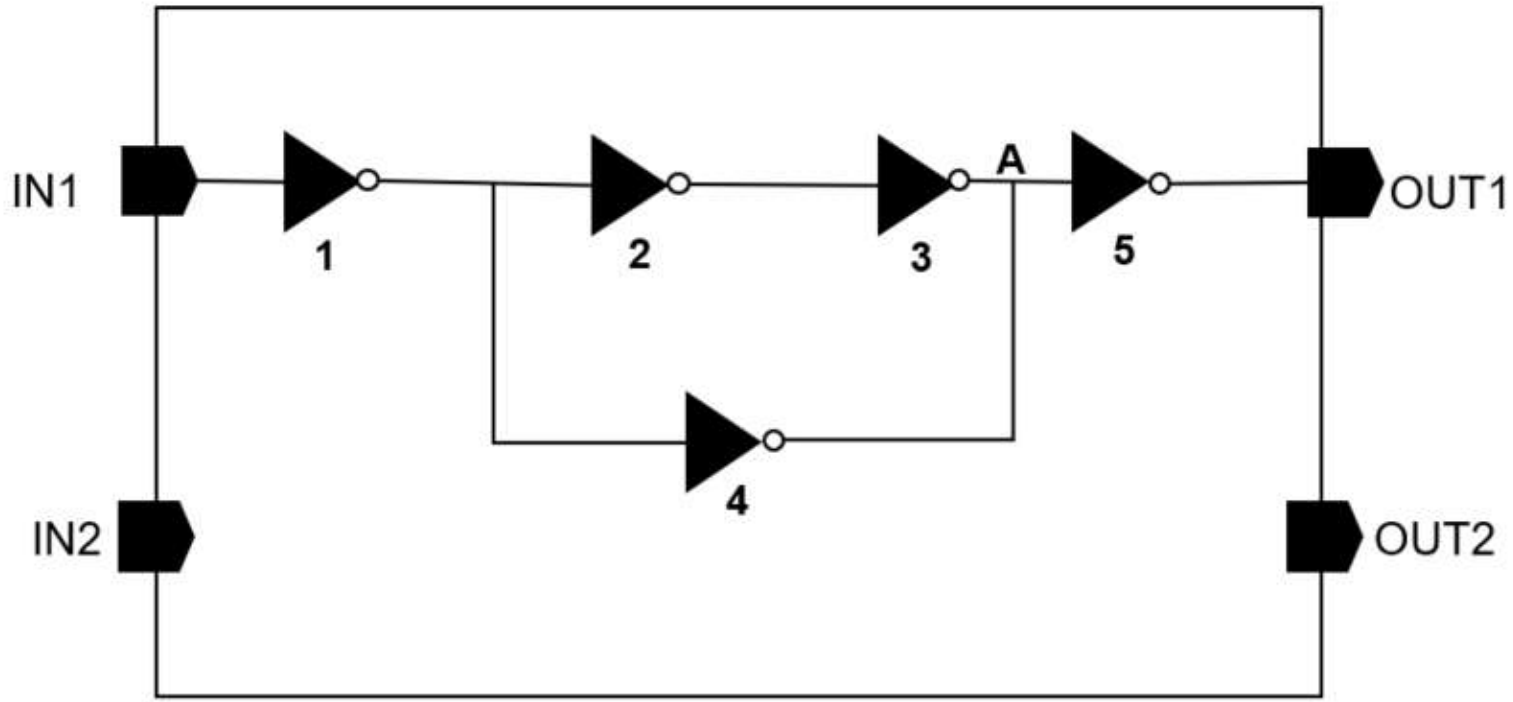
Dirty Short

locked

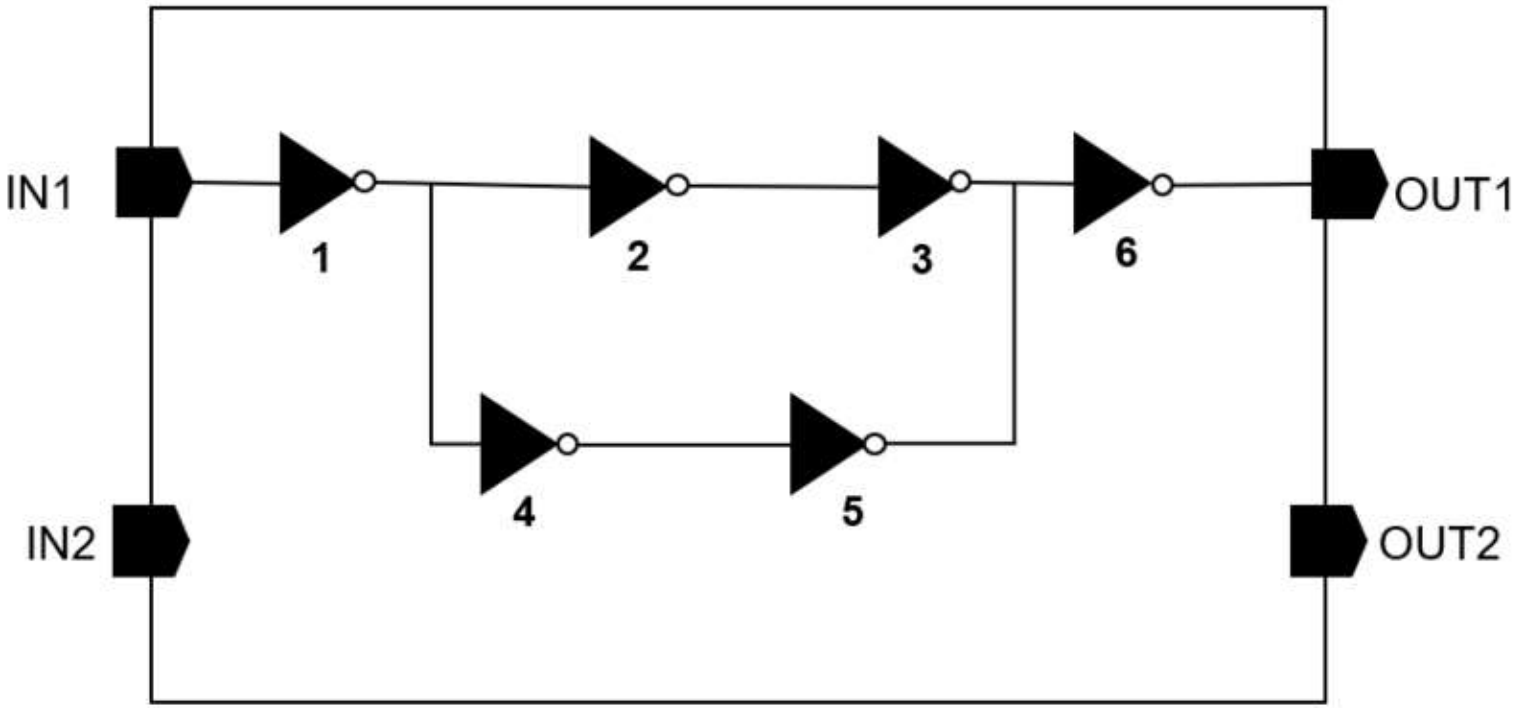
Problem | Submissions | Leaderboard | Discussions

There is a static check requested by a leading chip design company and you are given this task to drive.
Normally multi-driven nets are not recommended in designs since it can cause unintended behaviors. However, the customer is giving an exception to this by accepting multi-driven nets as long as different polarities are not applied at the convergence point which could potentially cause a short. Customer named this scenario as 'Clean-Short' (CS). When different polarities applied, it is called 'Dirty-Short' (DS).

Below is an example where there is a DS at A.



Below is an example of CS.



You can assume zero timing delays on gates in this static analysis. And you can also assume that this analysis only preserve possible connections between inverters (direct or indirect).
Customer wants to determine their chips are free of DS.

Input Format

Number of Test scenarios T
Number of inverters I and Number of connections between them C
C number of lines having two numbers i and j (0 < i,j <= I) separated by a single space representing a connection between ith inverter gate's output and jth inverter gate's input

Constraints

0 < T <= 10
0 < I <= 2000

0 < C <= 1000000

Output Format

Print T lines of 'YES' or 'NO' for each Test scenario.
Print 'YES' if the design has atleast one DS.
Print 'NO' otherwise.

Sample Input 0

```
1
5 5
1 2
2 3
3 5
1 4
4 5
```

Sample Output 0

```
YES
```

Sample Input 1

```
2
6 6
1 2
2 3
3 6
1 4
4 5
5 6
7 7
1 2
2 3
3 4
```

```
4 7
1 5
5 6
6 7
```

Sample Output 1

```
NO
YES
```

Submissions: 14
Max Score: 100
Difficulty: Medium

Rate This Challenge:

More

C++

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

13

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code