

7 Even Tree Split

7.1 Problem Description

You are given an undirected tree with n nodes. It's guaranteed that n is even.

You are going to delete some of the edges (at least 1), and have to let each of the remaining connected components have an even number of vertices.

Calculate the number of ways to delete the edges that satisfy such constraints, modulo 998244353.

7.2 Input

The first line contains an integer $T(1 \leq T \leq 30)$ - the number of test cases.

The first line of each test case contains an integer $n(1 \leq n \leq 10^5)$ - the number of vertices on the tree.

The next $n - 1$ lines of each test case contain two integers $u, v(1 \leq u, v \leq n)$, representing an edge between u and v .

It is guaranteed that the input graph is a tree with even number of vertices.

7.3 Output

For each test case, output the number of ways to delete the edges that satisfy such constraints in a single line, modulo 998244353.

7.4 Sample Input

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

7.5 Sample Output

```
0
1
```