Lemon Tree

Time limit: 2.0s **Memory limit:** 1G

You have a lemon tree containing N lemons connected with $N-1$ branches. Each lemon has a value. We call the floor of the arithmetic mean of the values on the path from u to v the *relation* between lemon u and lemon v. Tommy can only eat the two lemons if their *relation* is not greater than M; otherwise, Tommy will have syncope. Please help Tommy determine how many pairs of lemons he can eat.

Input Specification

The first line contains two integers, N $(3 \leq N \leq 10^5)$ and M $(1 \leq M \leq 10^3)$.

The next line contains N integers. The i^{th} integer, a_i $(-10^3 \leq a_i \leq 10^3)$, represents the value of i^{th} lemon.

The next $N-1$ lines will each contain two integers, u_i and v_i $(1 \leq u_i, v_i \leq N)$, indicating that there is a branch between lemon u_i and v_i.

Output Specification

Output the number of pairs of lemons Tommy can eat.

Constraints

Subtask	Points	Additional constraints
1	40	$3 \leq N \leq 10^3$
2	60	No additional constraints.

Sample Input 1

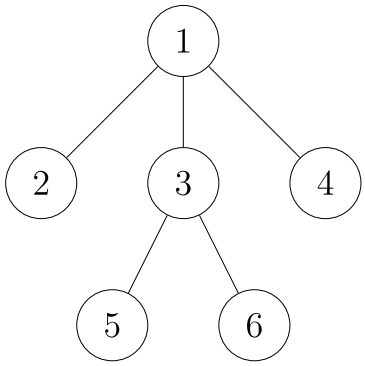
```
6 2
5 3 4 1 10 1
1 2
1 3
1 4
3 5
3 6
```

Sample Output 1

```
2
```

Explanation for Sample 1

The two pairs of lemons Tommy can eat are $(3, 6)$ and $(4, 6)$.



Sample Input 2

```
5 3
10 3 2 4 5
1 2
1 3
2 4
3 5
```

Sample Output 2

```
2
```