

Full article available at :

<https://dzone.com/articles/java-code-challenge-node-degrees>

## Challenge

In graph theory, the degree of a node is the number of edges coming into it or going out of it - how connected it is. For this challenge, you'll be calculating the degree of every node.

### Input Description

First, you'll be given an integer, N, on one line showing you how many nodes to account for. Next, you'll be given an undirected graph as a series of number pairs, a and b, showing that those two nodes are connected - an edge. Example:

```
3
1 2
1 3
```

### Output Description

Your program should emit the degree for each node. Example:

```
Node 1 has a degree of 2
Node 2 has a degree of 1
Node 3 has a degree of 1
```

## Challenge Input

This data set is a social network of tribes of the Gahuku-Gama alliance structure of the Eastern Central Highlands of New Guinea, from Kenneth Read (1954). The dataset contains a list of all of the

links, where a link represents signed friendships between tribes. It was downloaded from [the network repository](#).

```
16
1 2
1 3
2 3
1 4
3 4
1 5
2 5
1 6
2 6
3 6
3 7
5 7
6 7
3 8
4 8
6 8
7 8
2 9
5 9
6 9
2 10
9 10
6 11
7 11
8 11
9 11
10 11
1 12
6 12
7 12
8 12
11 12
6 13
7 13
9 13
10 13
11 13
5 14
8 14
12 14
13 14
1 15
2 15
5 15
9 15
10 15
11 15
12 15
13 15
1 16
2 16
5 16
6 16
11 16
```

```
12 16
13 16
14 16
15 16
```

## Challenge Output

```
Node 1 has a degree of 8
Node 2 has a degree of 8
Node 3 has a degree of 6
Node 4 has a degree of 3
Node 5 has a degree of 7
Node 6 has a degree of 10
Node 7 has a degree of 7
Node 8 has a degree of 7
Node 9 has a degree of 7
Node 10 has a degree of 5
Node 11 has a degree of 9
Node 12 has a degree of 8
Node 13 has a degree of 8
Node 14 has a degree of 5
Node 15 has a degree of 9
Node 16 has a degree of 9
```