

## ② Linearize a generic tree (Efficient Approach)

FAITH: Is baas humne faith rakha ki 20, 30, 40 linear ke sath uski pair hii return karengi!

```
public static Node linearize2(Node node)
```

```
{  
    // kisi bhi node ke children ke sath uski
```

```
    if (node.children.size() == 0)
```

```
    {  
        return node;
```

```
    }  
    // last ki Tail → linearize + last ki Tail nikal ke
```

```
    Node rkt = linearize2(node.children.get(node.children.size()-1));
```

```
    while (node.children.size() > 1)
```

```
    {  
        Node last = node.children.remove(node.children.size()-1);
```

```
        Node sl = node.children.get(node.children.size()-1);
```

```
        Node rkt = linearize2(sl);
```

```
        rkt.children.add(last);
```

```
    }
```

```
    return rkt;
```

```
}
```

$$T(n) = O(n)$$





