# Binary Trees Problems

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The definition of the trees is given by:

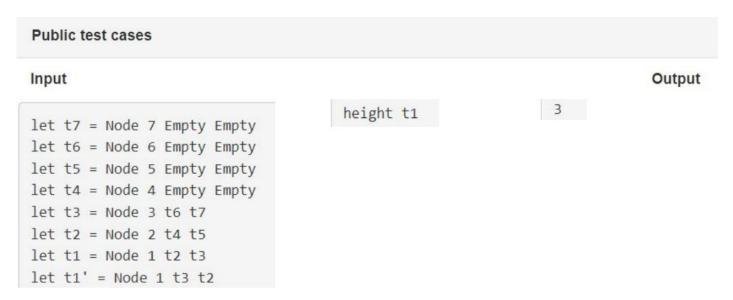**data** *Tree a = Node a (Tree a) (Tree a) | Empty* **deriving** (**Show**)

That is, a tree with elements of type *a* is, either an empty tree, either a node with an element (of type *a*) and two other trees of the same type. The *deriving (Show)* statement simply enables an visualization of trees.

# Problem 2

Write a function *height :: Tree a -> Int* that, given a tree, returns its height, assuming that empty trees have zero height.

**Public test cases**

| Input | | Output |
|---|---|---|

```
let t7 = Node 7 Empty Empty
let t6 = Node 6 Empty Empty
let t5 = Node 5 Empty Empty
let t4 = Node 4 Empty Empty
let t3 = Node 3 t6 t7
let t2 = Node 2 t4 t5
let t1 = Node 1 t2 t3
let t1' = Node 1 t3 t2
```

```
height t1
```

```
3
```

# Instructor Youtube Channel: Lucas Science