

Binary Search Tree Add

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Objectives

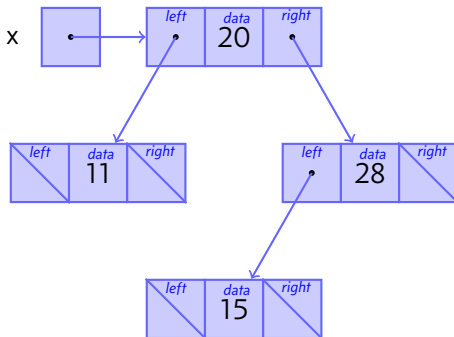
- ▶ Design the BST data structure in **CLOJURE**.
 - ▶ Record
 - ▶ add
- ▶ Explain how memory works with functional programming.

Define the record

- ▶ A tree node has left and right pointers, and a data.

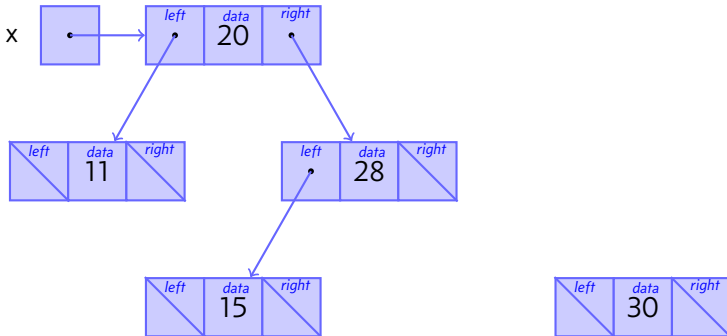
```
1 (defrecord Node [left data right])
```

Example tree



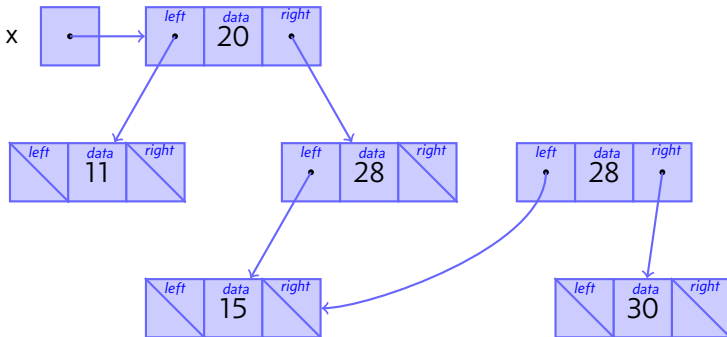
Example tree, root named `x`. What happens if we run `(def y (add x 30))` ?

Step 1: Build the 30 node.



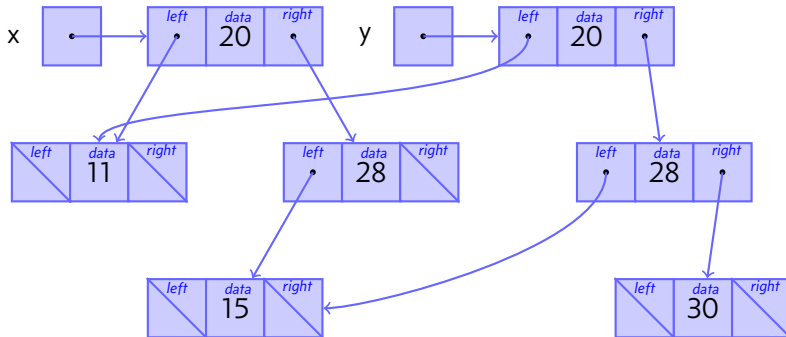
Example tree, root named `x`. What happens if we run
`(def y (add x 30))`?

Step 2: Rebuild the 28 node.



Example tree, root named x. What happens if we run
(def y (add x 30)) ?

Step 3: Rebuild the 20 node.



Example tree, root named x . What happens if we run
(def y (add x 30)) ?